
Record of Decision

Burlington Northern Missoula Facility

Missoula, Montana



Prepared by:

Montana Department of Environmental Quality
Waste Management and Remediation Division
Contaminated Site Cleanup Bureau
1225 Cedar Street
P.O. Box 200901
Helena, Montana 59620-0901

August 2021

PART 1

DECLARATION OF RECORD OF DECISION

Declaration of Record of Decision

FACILITY NAME AND LOCATION

The Burlington Northern Facility Missoula (also referred to as BN Missoula) is a high priority State Superfund facility listed on the Montana Comprehensive Environmental Cleanup and Responsibility Act (CECRA) Priority List. The BN Missoula Facility is within the City of Missoula, Montana.

STATEMENT OF BASIS AND PURPOSE

This decision document presents the Montana Department of Environmental Quality's (DEQ's) selected final remedial action for the BN Missoula Facility and was developed in accordance with CECRA.

The remedial action set forth in the Record of Decision (ROD) is based on the identified administrative record, which consists of the documents DEQ cited, relied upon, or considered in selecting the remedy for the BN Missoula Facility. The administrative record is identified in Part 2, Section 14.0. The complete administrative record is available for public review at the office of DEQ's Waste Management and Remediation Division, located at 1225 Cedar Street in Helena, Montana. A partial compilation of the administrative record, including a copy of the ROD, is available at the Mansfield Library and a copy of the ROD is also available at the Missoula Public Library.

ASSESSMENT OF THE FACILITY

DEQ is authorized to take remedial action whenever there has been a release or a threatened release of a hazardous or deleterious substance into the environment that poses or may pose an imminent and substantial endangerment to the public health, safety, or welfare, or the environment, Section 75-10-711, Montana Code Annotated (MCA). CECRA defines a hazardous or deleterious substance in Section 75-10-701(8), MCA. The primary contaminants remaining at the BN Missoula Facility are semi-volatile organic compounds, volatile organic compounds, petroleum hydrocarbon fractions, polycyclic aromatic hydrocarbons (PAHs), and arsenic. These contaminants are described in Part 2 of the ROD. DEQ has determined that these contaminants are hazardous or deleterious substances under CECRA. Based on the administrative record, DEQ has determined that contaminants have been spilled, leaked, discharged, leached, dumped, or disposed into the environment, which constitutes a release or threatened release under Section 75-10-701(19), MCA.

The potential for an "imminent and substantial endangerment to public health, safety, and welfare, or the environment" is present when contaminant concentrations in the environment exist or have the potential to exist above risk-based screening levels (Administrative Rules of Montana (ARM) 17.55.102) and an imminent and substantial endangerment does exist if contaminant concentrations exceed site-specific cleanup levels (SSCLs). DEQ has determined that contamination at the BN Missoula Facility exceeds risk-based screening levels and SSCLs. See Tables 1 and 2 and Part 2, Section 7.0 of the ROD. Therefore, DEQ has determined that a release or a threatened release of hazardous or deleterious substances from the BN Missoula

Facility poses an imminent and substantial endangerment to the public health, safety, or welfare, or the environment and further remedial action is necessary. In selecting the remedial action, DEQ evaluated the criteria found in Section 75-10-721, MCA.

DESCRIPTION OF THE REMEDY

Section 75-10-721(2)(c), MCA, directs DEQ to consider present and reasonably anticipated future uses of a facility when selecting remedial actions. The alternative selected must then meet SSCLs protective of the reasonably anticipated future uses.

Section 75-10-701(18), MCA, defines “reasonably anticipated future uses” as “likely future land or resource uses that take into consideration:

- (a) Local land and resource use regulations, ordinances, restrictions, or covenants;
- (b) Historical and anticipated uses of the facility;
- (c) Patterns of development in the immediate area; and
- (d) Relevant indications of anticipated land use from the owner of the facility and local planning officials.”

DEQ’s evaluation of reasonably anticipated future uses of the BN Missoula Facility is found in Part 2, Section 6.0 of the ROD. In summary, DEQ determined that the reasonably anticipated future use of the BNSF Railway Company (BNSF) property is commercial/industrial. DEQ also determined the reasonably anticipated future use of the current commercial/industrial and residential properties included within the BN Missoula Facility to remain commercial/industrial and residential, respectively.

The remedy for the BN Missoula Facility consists of remediation of contaminated media to meet SSCLs as described in the ROD, with reliance on institutional controls. Numerous interim actions have occurred at the BN Missoula Facility. DEQ considered the interim remedial actions and integrated that information and those actions into the remedy to the extent possible. Major components of the remedy are summarized below. Details of the remedy are provided in Part 2, Section 11.0 of the ROD. Some of the primary components of the remedy include:

Institutional Controls

The selected remedy partially relies on the placement of DEQ-approved restrictive covenants on the onsite (BNSF) properties within the BN Missoula Facility to limit the future use of the properties to commercial/industrial. These restrictive covenants are not needed on the existing offsite properties (residential and/or commercial/industrial properties) outside of BNSF’s property at the Facility. Groundwater use will also be regulated within the BNSF property to prohibit use of groundwater for non-remediation purposes until SSCLs for groundwater are met. The most recent groundwater data has shown minimal seasonal offsite exceedances of groundwater SSCLs, but if needed at the time ICs are placed, ICs will also be used to restrict groundwater usage offsite at the Facility until SSCLs are met. These restrictive covenants will remain in effect until DEQ determines they are no longer needed to ensure protection of public health, safety, or welfare, or the environment.

Soil

The selected remedy for deep subsurface/smear zone soils containing residual light non-aqueous phase liquid (LNAPL; also referenced as free product) and serving as a contaminant source to groundwater includes bioventing to reduce free product and deep subsurface/smear zone contaminants and natural source zone depletion (NSZD) to address remaining residual LNAPL in the subsurface. Bioventing has been successfully used as an interim action at the Facility and involves enhancing the natural microbial degradation of petroleum hydrocarbons from free product via injection and extraction of oxygen in the subsurface. NSZD reduces LNAPL mass through naturally occurring processes and is expected to continue remediation of residual LNAPL acting as a continuing source to groundwater (in conjunction with other alternatives) if bioventing reaches a point of limited efficiency where most of the residual LNAPL mass has been eliminated and the groundwater plume has been reduced/stabilized.

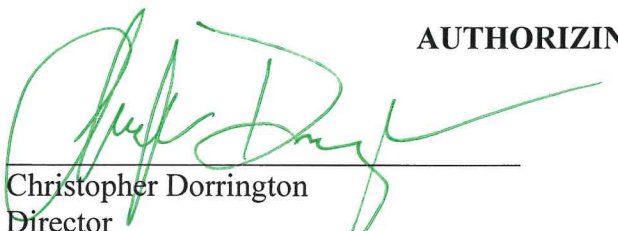
Groundwater

The selected remedy for groundwater is a combination of bioventing and monitored natural attenuation (MNA). As identified above, bioventing will reduce remaining LNAPL in the groundwater and deep subsurface/smear zone soils that are the source of petroleum groundwater contamination exceeding SSCLs in groundwater. MNA will be used to monitor the continued degradation of groundwater contaminants via natural processes such as dispersion; dilution; sorption; volatilization; and chemical or biological stabilization, transformation, or destruction. Long-term monitoring will also be conducted from groundwater wells at the BN Missoula Facility to evaluate the effectiveness of the remedy described above and to track contaminant concentrations until SSCLs are met. The Long-Term Groundwater Monitoring Plan will be prepared once the performance monitoring program for the selected remedy has been identified.

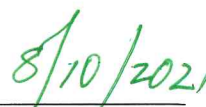
STATUTORY DETERMINATIONS

The selected remedy will attain a degree of cleanup that assures present and future protection of public health, safety, and welfare, and the environment, and complies with federal and state environmental requirements, criteria, and limitations (ERCLs) that are applicable or relevant to the remedial action and Facility conditions. DEQ considered current and reasonably anticipated future uses of the Facility and institutional controls in selecting the remedy. The selected remedy mitigates risk, is effective and reliable in the short- and long-term, is practicable and implementable, uses treatment and resource recovery technologies and engineering controls, and is cost-effective. DEQ has considered all public comment received during the public comment period on the Proposed Plan and has responded to these comments in Part 3 of the ROD. DEQ has also considered the acceptability of the remedy to the affected community, as indicated by community members and the local government, in determining the final remedy at the BN Missoula Facility.

AUTHORIZING SIGNATURE



Christopher Dorrington
Director
Montana Department of Environmental Quality



Date

PART 2

DECISION SUMMARY

Table of Contents

List of Figures	IV
List of Tables	V
List of Appendices	V
Acronyms.....	V
1.0 Facility Name, Location, and Description	1
2.0 Facility History	1
2.1 Ownership and Operational History	1
2.2 Regulatory History.....	2
2.3 Investigation History	3
2.4 Interim Remedial Action History.....	7
3.0 Community Participation	9
4.0 Scope and Role of Remedial Action	11
5.0 Facility Characteristics.....	11
5.1 Site Conceptual Exposure Model.....	11
5.2 BN Missoula Facility Overview	12
5.2.1 Geographic Setting.....	12
5.2.2 Climate.....	12
5.2.3 Hydrogeology	13
5.2.4 Surface Water.....	15
5.2.5 Groundwater	16
5.3 Facility Contamination.....	16
5.3.1 Groundwater	17
5.3.1.1 Regional Aquifer.....	17
5.3.1.2 Perched Zone.....	18
5.3.2 Soil	19
5.3.3 Soil Vapor	20
5.3.4 Light Non-Aqueous Phase Liquid (LNAPL)	20
6.0 Current and Reasonably Anticipated Future Land and Resources Uses	21
6.1 Land Uses.....	21
6.1.1 Onsite Property	22
6.1.2 Offsite Property.....	24
6.2 Groundwater Uses.....	25

6.3 Surface Water Uses	25
7.0 Human Health and Ecological Risk Analysis	25
7.1 Human Health Risks	26
7.1.1 Determination of COCs	27
7.1.1.1 Health Effects and Hazards	28
7.1.2 Calculation of Site-Specific Cleanup Levels	29
7.1.2.1 Groundwater.....	29
7.1.2.2 Soils.....	29
7.1.2.2.1 Lead.....	30
7.1.2.2.2 Direct Contact	30
7.1.2.2.3 Leaching to Groundwater.....	31
7.1.2.3 Soil Vapor	33
7.1.2.4 LNAPL.....	33
7.1.3 Evaluation of Uncertainties.....	34
7.1.3.1 Uncertainties in Data.....	34
7.1.3.2 Uncertainties in Exposure Assumptions	34
7.1.3.3 Uncertainties in Toxicity Assumptions	35
7.1.3.3.1 Petroleum Hydrocarbons.....	35
7.1.3.4 Uncertainties in Risk Characterization.....	36
7.2 Ecological Risk Evaluation.....	36
8.0 Remedial Action Objectives	37
8.1 LNAPL and Groundwater:.....	37
8.2 Soil.....	37
9.0 Summary of Alternatives	38
9.1 Components of Alternatives.....	40
9.1.1 Alternative 1 – No Further Action	42
9.1.2 Alternative 2 – Bioventing.....	42
9.1.3 Alternative 3 – Natural Source Zone Depletion (NSZD).....	43
9.1.4 Alternative 4 – Bioslurping/Enhanced Fluid Recovery (EFR) and/or Vacuum-Enhanced Dual-Phase Extraction (VEDPE).....	43
9.1.5 Alternative 5 – Passive and/or Active Skimming	44
9.1.6 Alternative 6 – Monitored Natural Attenuation (MNA)	44
9.1.7 Alternative 7 – In Situ Bioremediation	45
9.1.8 Alternative 8 – Air Sparging (AS)/Soil Vapor Extraction (SVE).....	45
9.1.9 Alternative 9 – In Situ Chemical Oxidation (ISCO).....	46

9.1.10 Alternative 10 – Soil Containment (Horizontal Barrier).....	46
9.1.11 Alternative 11 – Soil Excavation and Offsite Disposal.....	47
9.1.12 Alternative 12 – Soil Excavation, Ex Situ Treatment, and Backfill	47
9.2 Shared and Distinguishing Features.....	47
9.2.1 ERCLs.....	47
9.2.2 Long- Term Reliability of Remedy.....	47
9.2.3 Estimated Time for Design and Construction.....	48
9.2.4 Estimated Time to Reach Cleanup Levels	48
9.2.5 Cost	48
9.2.6 Use of Presumptive Remedies	48
9.3 Expected Outcomes	49
10.0 Comparative Analysis of Alternatives	49
10.1 Protectiveness	51
10.2 Compliance with ERCLs	51
10.3 Mitigation of Risk.....	51
10.4 Effectiveness and Reliability	52
10.5 Practicability and Implementability.....	52
10.6 Treatment or Resource Recovery Technologies	53
10.7 Cost Effectiveness.....	53
11.0 Selected Remedy.....	54
11.1 Summary of the Rationale for the Selected Remedy	54
11.2 Detailed Description of the Selected Remedy	56
11.2.1 Site- Wide Elements.....	57
11.2.1.1 Long-Term Monitoring.....	57
11.2.1.2 Institutional Controls.....	57
11.2.1.3 Engineering Controls	58
11.2.2 Soil	58
11.2.3 Groundwater	58
11.3 Cost Estimate for the Selected Remedy	59
11.3.1 Cost Uncertainties.....	59
11.4 Estimated Outcomes of Selected Remedy	59
12.0 Statutory Determinations	60
12.1 Protection of Public Health, Safety, and Welfare and the Environment.....	61
12.2 Compliance With ERCLs	61
12.3 Mitigation of Risk.....	61

12.4 Effectiveness and Reliability	62
12.5 Practicability and Implementability	62
12.6 Use of Treatment or Resource Recovery Technologies.....	62
12.7 Cost Effectiveness.....	62
13.0 Documentation of Notable Changes from Preferred Alternative of Proposed Plan.....	63
14.0 Administrative Record References	63

List of Figures

Figure 1	Facility Location Map
Figure 2	BN Missoula Facility Plan
Figure 3	Onsite Conceptual Model
Figure 4	Offsite Conceptual Model
Figure 5a	Missoula Potentiometric Regional Aquifer April 2019
Figure 5b	Missoula Potentiometric Perched Zone April 2019
Figure 6a	Missoula Potentiometric Regional Aquifer June 2019
Figure 6b	Missoula Potentiometric Perched Zone June 2019
Figure 7a	Missoula Potentiometric Regional Aquifer March 2020
Figure 7b	Missoula Potentiometric Perched Zone March 2020
Figure 8a	Missoula Potentiometric Regional Aquifer June 2020
Figure 8b	Missoula Potentiometric Perched Zone June 2020
Figure 9	EPH Fractions RBSL Exceedances in Groundwater Regional Aquifer
Figure 10	EPH Concentrations in groundwater Perched Zone
Figure 11	Historical LNAPL Extents Map Regional Aquifer
Figure 12	Historical LNAPL Extents Map Perched Zone
Figure 13a	Conceptual Bioventing System Well Layout Perched Aquifer
Figure 13b	Conceptual Bioventing System Well Layout Regional Aquifer
Figure 14	Conceptual NSZD Soil Gas Monitoring Locations
Figure 15	Conceptual MNA Monitoring Well Layout

List of Tables

Table 1	Contaminants of Concern in Groundwater and Site-Specific Cleanup Levels
Table 2	Contaminates of Concern in Soil and Site-Specific Cleanup Levels
Table 3	Comparative Analysis of Alternatives

List of Appendices

Appendix A	Determination of Environmental Requirements, Criteria, or Limitations
Appendix B	Model Restrictive Covenants
Appendix C	Selected Remedy Cost Estimation Tables
Appendix D	Compiled Public Comment

Acronyms

ARM	Administrative Rules of Montana
AS	Air sparging
AST	Aboveground storage tank
ATSDR	Agency for Toxic Substances and Disease Registry
BGS	Below ground surface
BN	Burlington Northern
BNSF	BNSF Railway Company
BRA	Baseline risk assessment
CECRA	Comprehensive Environmental Cleanup and Responsibility Act
CFR	Code of Federal Regulations
CFS	Cubic feet per second
COC	Contaminant of concern
COPC	Contaminant of potential concern
cPAH	Carcinogenic polynuclear aromatic hydrocarbons
DEQ	Montana Department of Environmental Quality
DEQ-7	Montana Numeric Water Quality Standards
EFA	East Fueling Area
EFR	Enhanced Fluid Recovery
EPA	United States Environmental Protection Agency

EPC – Exposure point concentration
EPH – Extractable petroleum hydrocarbon
ERCLs – Environmental requirements, criteria, or limitations
FS – Feasibility Study
FTA – Fate and Transport Analysis
Ft/ft – foot per foot
GPM – Gallons per minute
IC – Institutional control
ICCTA – ICC Termination Act of 1995
IEUBK – Integrated exposure uptake biokinetic (model)
IRIS – Integrated Risk Information System
ISCO - In situ bioremediation
LNAPL – Light non-aqueous phase liquid
MADEP – Massachusetts Department of Environmental Protection
MCA – Montana Code Annotated
MCL - Maximum contaminant level
MDHES – Montana Department of Health and Environmental Sciences
mg/kg – micrograms per kilogram
mg/L – micrograms per liter
MNA - Monitored natural attenuation
MRL – Montana Rail Link
MTBE - Methyl tert-butyl ether
MVWQD - Missoula Valley Water Quality District
NOAA – National Oceanic and Atmospheric Administration
NSZD- Natural source-zone depletion
PAH – Polynuclear (or polycyclic) aromatic hydrocarbon
PCE – Tetrachloroethene
PPMV - Parts per million by volume
RAO- Preliminary remedial action objective
RBSL – Risk-based screening level
RfC – Reference compound
RfD – Reference dose
RI – Remedial Investigation
RME – Reasonable maximum exposure
ROD – Record of Decision
RSL – Regional Screening Level
SCEM – Site conceptual exposure model
SPLP – Synthetic precipitation leaching procedure
SSCL – Site-specific cleanup level
SSSL – Site-specific screening level
STB – Surface Transportation Board
SVE - Soil vapor extraction
SVOC – Semi-volatile organic compound

TCE – Trichloroethene
TDS – Total dissolved solids
TPH – Total petroleum hydrocarbons
UAO – Unilateral administrative order
UCL – Upper confidence limit
 $\mu\text{g/kg}$ – micrograms per kilogram
 $\mu\text{g/L}$ – micrograms per liter
 $\mu\text{S/cm}$ – microSiemens per centimeter
USC – United States Code
UST – Underground storage tank
VEDPE- Vacuum-enhanced dual-phase extraction
VI – Vapor intrusion
VOC – Volatile organic compound
VPH – Volatile petroleum hydrocarbon
WFA – West Fueling Area

1.0 Facility Name, Location, and Description

The Burlington Northern (BN) Facility - Missoula, is a high priority Comprehensive Environmental Cleanup and Responsibility Act (CECRA- State Superfund) facility located in Missoula, Missoula County, Montana (Figure 1). This Facility is referred to as the “BN Missoula Facility” or “Facility” throughout the document. The Montana Department of Environmental Quality (DEQ) is overseeing remediation of the Facility under CECRA. The Record of Decision (ROD) identifies DEQ’s selected final remedy for the BN Missoula Facility.

The Facility consists of an active railyard, which is currently operated by Montana Rail Link (MRL), as well as residential and commercial areas to the south and southwest of the railyard. The approximate Facility area based on extent of contamination is approximately 42 acres. The Facility is located in the northern one-half of the northwestern quarter of Section 22, T 13 N, R19W, in the northeastern portion of Missoula, Montana, between the city center and Waterworks Hill. The Facility is generally bounded by North 1st Street, North 2nd Street, and Interstate 90 on the north; Alder Street and Spruce Street on the south; Woody Street on the west; and Madison Street on the east. A map depicting the overall Facility layout and the CECRA Facility boundary is provided in Figure 2.

2.0 Facility History

2.1 Ownership and Operational History

The BN Missoula Facility is primarily owned by the BNSF Railway Company (BNSF). BNSF’s predecessor, the former Northern Pacific Railroad, established operations in Missoula in 1883. The Northern Pacific Railroad merged with several other rail companies in 1970 to form the Burlington Northern Railroad. In 1987, MRL began operating the Facility under a long-term lease. In 1996, Burlington Northern Railroad merged with the Atchison, Topeka, and Santa Fe Railway to form the Burlington Northern and Santa Fe Railway. (Kennedy/Jenks, 2000). In 2005, the railroad officially changed its name to the BNSF Railway Company. Hereinafter, all references to BNSF include its predecessors.

BNSF’s historical operations included maintenance, lubrication, and minor repairs at the railyard. A roundhouse, machine shop turntable and garage were present at the Facility and were utilized for repairs and maintenance of steam engines. The original seven-car roundhouse was demolished around 1950 and replaced with a 19-stall roundhouse and backshop adjacent to the current turntable located at the facility. The new roundhouse was constructed to facilitate service and maintenance activities for diesel locomotives. Onsite materials storage, along with a garage area, was located to the east of the turntable. The roundhouse was demolished in 1983, along with the associated shop buildings, and the materials storage area (Kennedy/Jenks, 2000).

An underground oil/water separator was installed at the Facility in 1976 and was connected to the City of Missoula Sanitary Sewer. Lube pits in the roundhouse discharged to the oil/water separator, via a grit chamber located south of the roundhouse. MRL began operating the railyard in 1987 under long-term lease. In 1998, the underground oil/water separator was removed, along with a 10,000-gallon used oil underground storage tank (UST), and replaced with an aboveground oil water separator and a 15,000-gallon used oil aboveground storage tank (AST). The grit chamber was removed in 1997 (Kennedy/Jenks, 2000). The site layout, including historical structure locations, is shown in Figure 2.

Currently, MRL performs fueling operations primarily at the West Fueling Area (WFA). The East Fueling Area (EFA) is also used for fueling, but to a lesser extent. Historically, additional fueling activities were conducted at an Amtrak fueling area, west of the Facility. Up to 1.4 million gallons of diesel fuel are reportedly dispensed annually. Fuel is delivered to the railyard via a six-inch diameter underground pipeline that originates from the Conoco Bulk Fuel Plant, located approximately two miles northwest of the railyard (Arcadis, 2021b).

An aboveground line is used to convey fuel from the 30,000-gallon AST to dispensers in the WFA. Fuel is delivered to the EFA through a six-inch diameter asphalt-coated steel underground line. This line was fitted with galvanic protection in July 1998. Underground lines are pressure tested annually by MRL and Conoco as required by UST regulations. Minor maintenance is performed on engines at the lube pit located immediately east of the existing turntable.

Wastewater generated from the lube pit and the two fueling areas is conveyed to the aboveground oil/water separator system, which discharges to the City's sanitary sewer (Arcadis, 2021b).

2.2 Regulatory History

In 1990, DEQ's predecessor, the Montana Department of Health and Environmental Sciences (MDHES), conducted a preliminary Comprehensive Environmental Response, Compensation, and Liability Act site inspection, to evaluate the potential of listing the Facility on the United States Environmental Protection Agency (EPA) National Priority List. MDHES listed the Facility on the CECRA Priority List in May 1994. In 1995, DEQ (successor to MDHES) determined that BNSF was liable for the Facility and issued BNSF a notice of potential liability (DEQ, 1995). In 1998, DEQ issued a Unilateral Administrative Order (UAO) to BNSF, requiring it to conduct a Remedial Investigation (RI) and Feasibility Study (FS) at the Facility (DEQ, 1998). DEQ amended the UAO in October 1999, September 2003, and October 2011, and it is currently still in effect (DEQ, 1999) (DEQ, 2003) (DEQ, 2011).

2.3 Investigation History

There have been numerous investigations conducted at the BN Missoula Facility. These are briefly discussed below.

- Beginning in 1985, BNSF conducted a series of investigations to determine the nature and extent of contamination at the Facility (Kennedy/Jenks, 2000). In 1985 and 1986, BNSF drilled six shallow borings, documenting contamination near active fueling areas and installed three monitoring wells. Shallow test pits in the fueling areas contained free product in the form of free-floating diesel fuel.
- In 1986, BNSF installed three additional monitoring wells, excavated four test pits, and noted diesel product on the groundwater. In 1987, BNSF installed five monitoring wells, oversaw fuel recovery testing, and measured product thickness in monitoring wells at the Facility (URS Consultants Inc, 1994). In 1987, approximately 400 gallons of light non-aqueous phase liquid (LNAPL) were recovered over the course of 20 days, using a temporary LNAPL recovery system at well M-8 in the EFA (Arcadis, 2021b).
- In November 1987, BNSF installed three additional monitoring wells and two product recovery wells and initiated quarterly measurements of free product thickness. In 1988, BNSF conducted line testing activities at the Facility. The results of the investigation indicated that fuel lines were able to maintain pressures within 0.05 gallons per hour tolerances (Olympus, 1988). In 1989, BNSF observed free product in recovery well MR-1 and nearby monitoring wells, including well M-17, during routine monitoring activities (Kennedy/Jenks, 1989a).
- In 1989, BNSF installed seven additional monitoring wells in the regional aquifer, one recovery well in the regional aquifer, two monitoring wells in the perched zone, and two recovery wells in the perched zone. Groundwater sampling indicated the presence of petroleum hydrocarbons including benzene (6-13 micrograms per liter (ug/L)), ethylbenzene (20-53 ug/L), xylenes (18-52 ug/L), and trichloroethene (TCE) (1-8 ug/L) (Kennedy/Jenks, 1989b).
- In 1993, EPA performed a Screening Site Inspection at the Facility, collecting 13 groundwater samples, 22 soil samples, five waste source samples and six quality control samples. Elevated concentrations of TCE (10-16 ug/L), naphthalene (34, 37 ug/L), acenaphthene (41,62 ug/L), fluorene (0.6-100 ug/L), phenanthrene (0.9-150 ug/L), and anthracene (2, 48 ug/L) were observed in monitoring wells at the Facility. Onsite and offsite soil samples contained elevated levels of the following organic compounds: naphthalene (31-7800 micrograms per kilogram (ug/kg)), acenaphthene (26-4100 ug/kg), fluorene (25-9300 ug/kg), phenanthrene (89-27000 ug/kg), anthracene (25-6100 ug/kg). Metals were detected in onsite and offsite surface soils for arsenic (1.8-17.6 milligrams per kilograms (mg/kg)) and lead (10-671 mg/kg). Pesticides were detected in onsite and offsite surface soil including dieldrin (4.5-35 ug/kg), endrin (5.4-32 ug/kg), 4,4-DDD (5.1-31 ug/kg), 4,4-DDT (7.8-280 ug/kg), and endrin aldehyde (5-50 ug/kg), which were attributed to pesticide mixing in tank cars the prior year. TCE was also detected in

surface soils (42 ug/kg). Free product (diesel fuel) was observed in monitoring wells at the Facility (URS Consultants Inc, 1994). From 1997 through 1999, BNSF conducted an RI to characterize the nature and extent of releases or threat of potential releases of hazardous or deleterious substances, determine the effectiveness of ongoing fuel recovery systems to evaluate and develop cleanup options for the FS, and provide data for use in an assessment of health and ecological risks. During the RI, samples collected from surface soil and subsurface soil were analyzed for polynuclear aromatic hydrocarbons (PAHs) (Kennedy/Jenks, 2000). Soil vapor samples were collected and analyzed for volatile organic compounds (VOCs). Five new monitoring wells were constructed in the perched zone, three multi-level nested piezometers were constructed, and two new wells were installed in the regional aquifer. Groundwater was analyzed for VOCs, semi-volatile organic compounds (SVOCs), and dissolved metals. LNAPL measurements were also taken, to evaluate the quantity, mobility and character of diesel fuel located at the top of the saturated zones for both perched zone and regional groundwater. The following PAHs were detected in surface soils: benzo(a)anthracene (0.066-7.4 mg/kg), benzo(b)fluoranthene (0.082-12 mg/kg), benzo(a)pyrene (0.1-5.5 mg/kg), dibenzo(a,h)anthracene (0.049-1.3 mg/kg), indeno(1,2,3-cd)pyrene (0.095-4.1 mg/kg). Total PAHs (0.04-0.7 mg/kg) were also detected in subsurface soil samples, which also indicated the presence of total extractable hydrocarbons (27- 1250 mg/kg), and trace detections of PAH. VOCs, including TCE at a maximum concentration of 9.09 parts per million by volume (ppmv), tetrachloroethene (PCE) at 0.59 ppmv, cis- 1,2-dichloroethene at 0.29 ppmv, benzene at 0.05 ppmv, and toluene at 0.09 ppmv were detected in soil gas samples. Groundwater samples had exceedances of Montana numeric water quality (DEQ-7) standards for TCE (1-9.2 ug/L) and certain dissolved metals (Kennedy/Jenks, 2000).

- In 2005, MRL conducted upgrades to the fueling islands in the railyard. During excavation and construction activities, BNSF sampled surface and subsurface soils exposed in excavated trenches to have additional data for use in the risk assessment. The samples were evaluated for extractable petroleum hydrocarbons (EPH), volatile petroleum hydrocarbons (VPH), and VOCs (Kennedy/Jenks, 2005a).
- In 2006, BNSF conducted LNAPL recovery testing at regional aquifer monitoring well M-45, due to apparent increases in free product thicknesses observed in the well (Kennedy/Jenks, 2006b).
- In 2006, BNSF conducted a supplemental environmental investigation, installing seven additional groundwater monitoring wells within the southern portion of the Facility. Soil samples were collected from each of the boreholes at 12 ft below ground surface (bgs), at the uppermost saturated zone, to determine the presence of VPH and EPH. The samples results showed the presence of EPH and VPH fractions. Only three of the seven installed wells were sampled for VPH and EPH as the other wells exhibited indications of the presence of LNAPL. The groundwater samples did not have any detections of VPH or EPH analytes (Kennedy/Jenks, 2006c).
- In 2006, BNSF conducted an anaerobic column study to estimate Facility-specific hydrocarbon biodegradation rates using Facility subsurface soils to construct the

columns used in the study. The column study showed significant mass degradation indicating there are sufficient microbial populations to biodegrade the contaminated soil (Kennedy/Jenks, 2008).

- In 2006 and 2007, BNSF performed additional soil sampling within the railyard to supplement the data necessary for conducting the Baseline Risk Assessment (BRA). Surface and subsurface soils were analyzed for VPH, EPH, and a suite of metals. Samples taken near the former roundhouse area were also analyzed for VOCs. Surface soil sample analytical results showed elevated levels (exceeding applicable screening levels at the time) of several PAHs, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene and metals, including arsenic, cadmium, and lead. Subsurface sample results exceeded applicable screening levels (at that time) for C9-C10 aromatics and C9-C18 aliphatics (Kennedy/Jenks, 2007).
- In 2010, BNSF conducted a vapor intrusion (VI) investigation, which included onsite indoor air and crawlspace air sampling in the roundhouse office building on the railyard. Subsurface soil gas samples were also collected from eleven soil vapor probes installed in open spaces throughout the railyard. Soil gas samples were analyzed for VOCs, air-phase petroleum hydrocarbons, and fixed gases. PCE, benzene, ethylbenzene, m,p-xylene, C5-C8 aliphatics, C9-C12 aliphatics, C9-C10 aromatics, n-hexane, chloroform, 1,4-dioxane, and n-heptane were observed in soil gas samples from the soil vapor probes at concentrations exceeding EPA's residential regional screening levels (RSLs) (Kennedy/Jenks, 2010a).
- In June 2011, BNSF conducted a surface and subsurface soil investigation to collect data to evaluate the mobility of organic contaminants in soil and determine their potential for leaching to groundwater. The investigation included collection of samples from 15 soil borings, on which synthetic precipitation leaching procedure (SPLP) testing was conducted (Kennedy/Jenks, 2014a).
- In February 2011, BNSF conducted additional VI sampling of indoor air and subslab sampling in six structures both onsite and offsite as an expansion of the initial VI sampling event. Twelve indoor air samples and fifteen crawlspace/subslab/near-slab soil gas samples were taken. In December 2011, BNSF collected a second round of indoor air and crawlspace/subslab samples from the roundhouse office building and the six other previously sampled structures, as well as a first round of indoor air and crawlspace/subslab samples from 13 additional offsite structures. In this February 2011 event, BNSF collected 30 indoor air and 36 crawlspace/subslab/near-slab samples. Finally, in March 2012, BNSF re-sampled eight of the structures that were initially sampled in December 2011, collecting 18 indoor air samples and 23 crawlspace/subslab soil vapor samples. The samples from all these sampling events were evaluated for VOCs and air-phase petroleum hydrocarbons. The results from the VI investigations were evaluated in accordance with the DEQ Vapor Intrusion General Decision-Making Process flowcharts, which use a multiple lines of evidence approach. Contaminants of potential concern (COPCs) were identified and site-specific screening levels (SSSLs) calculated. The results of the overall evaluation concluded that detected contaminant

concentrations were all below the SSSLs and VI was not a significant contributor to indoor air concentrations; therefore, no further action was needed for the structures (Kennedy/Jenks, 2012).

- In January 2013, BNSF collected five indoor air samples and eight subslab soil vapor samples from two additional locations. The results from the VI investigations were evaluated in accordance with the DEQ Vapor Intrusion General Decision-Making Process flowcharts, which use a multiple lines of evidence approach. The results of the evaluation concluded that detected contaminant concentrations were all below the SSSLs and VI was not a significant contributor to indoor air concentrations; therefore, no further action was needed for the structures (Kennedy/Jenks, 2013a).
- In 2013, BNSF collected surface soil samples for SPLP analysis as part of the Fate and Transport Analysis (FTA). Samples were analyzed for EPH, VPH, 1-methylnaphthalene, 2-methylnaphthalene, and VOCs and the results were used in the FTA, which is discussed in detail in Section 6.5 (Kennedy/Jenks, 2014a) .
- In 2013, BNSF conducted multiphase extraction testing on two wells in the perched zone. Wells M-18 and M-50 were cycled through a regime of skimming and vacuum enhanced extraction to evaluate LNAPL recoverability. Testing results indicated minimal hydrocarbon mass removal and no subsequent increases in LNAPL thicknesses in the well; therefore, additional multiphase extraction events were not recommended for the perched zone (Kennedy/Jenks, 2014b).
- In 2015, BNSF conducted surface soil sampling at offsite residential properties where the historical 1993 EPA Screening Site Inspection data exceeded site-specific cleanup levels (SSCLs) for total carcinogenic polynuclear aromatic hydrocarbons (cPAHs). During this event, BNSF sampled surface soil at five adjacent residential properties. Additionally, twelve background locations were sampled to collect PAH data representative of the Missoula Valley from locations not directly related to identified sources of contamination to assist in evaluating if detections in the residential yards were related to non-railyard sources of contamination thought to be present in the Missoula Valley. Results shows that one of the five residential properties had a total cPAH concentration that exceeded the SSCL. All the background sample total cPAH concentrations were below the SSCL, indicating that the non-railyard sources of PAHs in the Missoula Valley were not contributing to elevated levels of PAHs seen at/adjacent to the railyard (Kennedy/Jenks , 2016b).
- In 2016, BNSF conducted additional sampling to characterize cPAHs in offsite and onsite surface soils and determine whether PAHs are present in surface soils at concentrations above the SSCL for total cPAHs. Except for two offsite locations, all the total cPAH results for the onsite and offsite sampling locations exceeded the SSCL for residential soil established in the BRA (Kennedy/Jenks, 2016d).
- In January 2017, EPA issued the final assessment of benzo(a)pyrene under the Integrated Risk Information System (IRIS) program, updating the prior assessment developed in 1987. Using this updated assessment, new SSCLs were developed for PAHs at the

Facility. All the offsite surface soil concentrations from the 2015/2016 sampling events are below these revised residential surface soil SSCLs (Kennedy/Jenks, 2017).

BNSF has conducted groundwater monitoring at the Facility since 1987. This ongoing groundwater monitoring includes sampling in the regional aquifer, as well the perched zone at the Facility, and has included analysis for EPH, VPH, VOCs, metals, and pesticides. With few notable exceptions (e.g., the December 2016 MRL diesel fuel release), groundwater sampling has indicated decreases in contaminants over time. Overall, LNAPL thicknesses continue to decrease. Following the December 2016 diesel fuel release, LNAPL in the perched zone initially increased, but has returned to a decreasing trend (Arcadis, 2020a). More details about Facility contamination can be found in Section 5.5.

2.4 Interim Remedial Action History

- In 1988 BNSF removed a 10,000-gallon and a 1,200-gallon diesel fuel tanks from the Facility (MDHES, 1990).
- In August 1989, BNSF used an extraction pump to recover 200 gallons of diesel fuel from recovery well MR-1 (Kennedy/Jenks, 1989a).
- As of 1989 LNAPL recovery efforts continued, and approximately 800 gallons of LNAPL were recovered from MR-1 in the EFA (Arcadis, 2021b).
- In 1990 and 1991, BNSF removed two 26,000-gallon diesel USTs and one 6,000-gallon fuel oil UST from the Facility. Contaminated soils were found in the vicinity of the tanks. Total petroleum hydrocarbons (TPH) were found at levels up to 22,500 µg/g (micrograms per gram, or parts per million) and free product was observed in saturated soils near the tanks. Approximately 350 cubic yards of diesel contaminated soil was excavated after removal of the USTs. Free product recovery continued in both the EFA and WFA, with a dual pump system drawing down the water table and recovering free product in MR-1, and a peristaltic pump used for extracting free product from MR-5. Soil was also found to be saturated with petroleum hydrocarbons near the WFA track pans (Olympus, 1991). Approximately 2,040 gallons of LNAPL were recovered from well MR-1 in 1990 (Arcadis, 2021b).
- In 1991 and 1992, MDHES conducted several site inspections during the installation of monitoring wells at the Facility. Monitoring wells were installed in the turntable area, and the free product recovery system continued to be run at two wells, one in the EFA and the other in the WFA (MDHES, 1991) (MDHES, 1992). Minimal product recovery occurred in the EFA, and BNSF shut the recovery system down in 1991 (Arcadis, 2021b).
- In 1993, BNSF installed a total fluid recovery system in the WFA, and approximately 94 gallons of LNAPL were recovered (Kennedy/Jenks, 2010b).

- In 1995, BNSF installed soil gas monitoring points in support of a bioventing treatability test program. MR-5 was used as an injection well and was evaluated over a six-month bioventing test program. Soil samples collected from the three borings used to construct the soil gas monitoring points, were evaluated for TPH content (Kennedy/Jenks, 1996).
- In 1997, as part of the RI, BNSF removed a 10-foot by 14-foot grit chamber, as well as the residual sludge stored within the grit chamber. A 10,000-gallon used oil UST was also removed, and the below ground oil/water separator system was replaced by an aboveground oil/water separator, with a 15,000-gallon used oil AST (Kennedy/Jenks, 2000).
- In 1998, BNSF installed bioventing systems in regional aquifer wells MR-1 and MR-5, attaching the wells to air injection blowers and operating the systems in injection mode only (Kennedy/Jenks, 2016a). From 1996 to 1998, approximately 572 gallons of LNAPL were recovered from the WFA (Kennedy/Jenks, 2010b).
- In 2004, MRL constructed a new park adjacent to the historic depot building at the Facility without DEQ approval or oversight. During the construction of the park, MRL removed an estimated 820 cubic yards of soil and took it offsite for use as fill material. Based on DEQ requirements, the excavated material was subsequently sampled for asbestos, metals, PAHs, and EPH to ensure it did not contain contamination from the Facility. The excavated material did not contain contamination at concentrations exceeding applicable screening levels and was allowed to remain at the offsite location as fill material (Montana Rail Link, 2004).
- In 2005, BNSF conducted soil vapor extraction (SVE) pilot testing at MR-1 in the WFA (Kennedy/Jenks, 2005b).
- In 2006, MRL conducted an interim action to address a diesel spill that occurred within the railyard when a locomotive was side-swiped by another locomotive along the active tracks within the WFA next to MW-40. The moving locomotive's fuel tank was ruptured and released approximately 2,450 gallons of diesel fuel (Envirocon, 2006). Approximately 1,328 tons of diesel-contaminated soil was excavated from the railyard (Kennedy/Jenks, 2006a).
- In the fall of 2009, the WFA total fluids recovery system was shut down due to diminished LNAPL recovery and low reported LNAPL transmissivity (Kennedy/Jenks, 2010b).
- In 2012, BNSF expanded the bioventing systems in both the EFA and WFA. The EFA bioventing system was expanded to include wells M-17, M-45, M-55 and MR-1, while the WFA bioventing system was expanded to include M-13, M-15, M-21, M-29, M-47, M-52 and M-57. In 2013, a new regenerative blower was installed in the WFA to increase blower capacity to allow extraction/injection to the entire expanded WFA bioventing well network (Kennedy/Jenks, 2016a). BNSF continues to operate and maintain the EFA and WFA bioventing systems.

- From 2013 to 2014, BNSF conducted post-construction pilot testing and system startup testing on the expanded bioventing networks in the EFA and WFA. BNSF collected baseline soil gas measurements and evaluated system parameters in different modes of operation (e.g., injection and extraction) (Kennedy/Jenks, 2016a).
- In 2016, MRL excavated surface soils contaminated with used oil released from a dumpster used to store/drain oil filters during engine maintenance activities and disposed of them offsite at a local landfill. MRL collected a total of five confirmation samples from the excavation and analyzed three grab samples (including one duplicate) for VPH, and two five-point composite samples (including one duplicate) for EPH, PAHs, metals, and VOCs. VPH, EPH, PAHs, and VOCs were not detected above method detection limits in the samples and metals were detected at concentrations below Montana's background threshold values or other applicable screening levels (Olympus, 2016).
- On December 12, 2016, a fitting in the fuel pump house for MRL's fueling operations failed resulting in a release of approximately 7,080 gallons of diesel fuel to the ground surface in the WFA. The release occurred inside an area of known historic contamination. Some of the fuel was collected by the track pans in the fueling area and some was recovered by MRL using vacuum trucks. MRL recovered an estimated 2,800 gallons of diesel. MRL excavated and disposed of approximately 2,070 cubic yards of impacted soil from the release location; however, excavation of impacted soils was limited in the northern and southern extent of the excavation due to buried utilities in the area. MRL performed additional groundwater monitoring in the WFA as part of BNSF's ongoing regularly scheduled semi-annual sampling events (Olympus, 2017).

3.0 Community Participation

DEQ complied with the public participation requirements found in Section 75-10-713, MCA, of CECRA. In addition, DEQ provided additional opportunities for public involvement not required by CECRA (including but not limited to seeking public comment on the RI Work Plan and the RI Report) (DEQ, 2021b).

DEQ issued a public notice in June 1998 to announce a 60-day public comment period and planned public meeting/public hearing to discuss the draft RI work plan and accept oral public comment. During the August 27, 1998, public meeting, DEQ presented the draft RI work plan, answered questions from the public, and accepted public comment. Upon request from the public, DEQ extended the comment period an additional 14 days. Following completion of the public comment period on the draft RI work plan, on December 10, 1998, DEQ issued a public notice indicating that a responsiveness summary responding to comments received on the draft RI work plan had been completed.

DEQ issued a public notice in December 1999 to announce a 30-day public comment period and planned public meeting for the final draft RI report. The public meeting was held January 18, 2000.

The Proposed Plan was made available to the public on February 26, 2021. DEQ provided notice of a 30-day public comment period and public meeting/hearing associated with the Proposed Plan via email and mailings to stakeholders and local government entities. A legal notice of the public comment period and public meeting/hearing was published on February 26, 2021, in the Missoulian and on DEQ's website. On February 25, 2021, DEQ also sent letters to the Missoula County Commissioners, the Mayor and the City Council, BNSF, and MRL notifying them of the public comment period and public meeting/hearing. DEQ held a public meeting/hearing on March 24, 2021, to present and discuss the Proposed Plan, answer questions, and to receive oral public comments. DEQ received requests to extend the public comment period and agreed to provide a 30-day extension, until May 2, 2021. A legal notice of the extension of the public comment period was published in the Missoulian on April 1, 2021 and on DEQ's website.

Notice of the issuance of this ROD will be published in accordance with Section 75-10-713, Montana Code Annotated (MCA), and copy of the ROD will be available to the public at the Mansfield Library, Missoula Public Library, and Waste Management and Remediation Division's office in Helena, as well as via DEQ's website at <https://deq.mt.gov/public/publicnotice>. The ROD is accompanied by a discussion of any notable changes to the selected remedy presented in the Proposed Plan along with reasons for the changes. Also included in Part 3 of the ROD is a Responsiveness Summary, which provides a response to the comments received during the comment period on the Proposed Plan.

The administrative record that contains the documents DEQ cited, relied upon, or considered in selecting the final remedy for the BN Missoula Facility (see Section 14.0) is available for review by contacting DEQ at:

Montana Department of Environmental Quality
Waste Management and Remediation Division
1225 Cedar Street
Helena, MT 59601
(406) 444-6444
Business Hours: Monday – Friday, 8:00 am – 5:00 pm

A copy of the ROD and a partial compilation of the Facility Files can be found at:

Mansfield Library
32 Campus Dr
Missoula, MT 59812
(406) 243-6866
Business Hours: Monday – Friday, 8:00 am – 5:00 pm

In addition, a copy of the ROD is available at:

Missoula Public Library
455 E Main
Missoula, MT 59802
(406) 721-2665

4.0 Scope and Role of Remedial Action

In general, the purpose of the RI and subsequent investigations were to collect data necessary to adequately characterize the BN Missoula Facility for developing and evaluating effective remedial alternatives that address human health and environmental risks at the BN Missoula Facility. The primary objectives of the RI, BRA, FS, and other investigations for the BN Missoula Facility include the following:

- Adequately characterize the nature and extent of releases or threatened releases of hazardous or deleterious substances;
- Allow an assessment of health and ecological risks and development of SSCLs; and
- Allow the effective development and evaluation of alternative remedies to be included in the FS to allow selection of a final remedy.

Based on the RI, BRA, and FS, DEQ finds that the data obtained is adequate for DEQ to evaluate and select an appropriate remedy for the BN Missoula Facility. Any data gaps will be evaluated and/or implemented during remedial design. The ROD contains SSCLs for all known contaminants of concern (COCs) associated with the Facility, and addresses all media contaminated from the hazardous or deleterious substances released from or associated with the railyard at the BN Missoula Facility described herein.

DEQ developed a BRA for the BN Missoula Facility in 2015 (Kennedy/Jenks, 2015). A site-specific FTA evaluation of how contaminants move through the soil to groundwater was also conducted using site-specific data (Kennedy/Jenks, 2014a).

The ROD documents the final remedy for BN Missoula Facility; it addresses the principal threats to public health, safety, and welfare and the environment posed by contaminated media; and selects a remedy that will comply with applicable or relevant state and federal environmental requirements, criteria, and limitations (ERCLs).

DEQ anticipates that remedial design for portions of the remedy will begin shortly after the ROD is issued, and implementation or construction will begin in approximately one year. Institutional controls (ICs) will be implemented during and/or after the construction phase of the remedy.

5.0 Facility Characteristics

5.1 Site Conceptual Exposure Model

The Site Conceptual Exposure Model (SCEM) (Figure 3 and Figure 4) is the framework for understanding the receptors and exposure pathways included in the BRA and the way contaminants move in the environment. It identifies the primary source of contamination at the BN Missoula Facility from the spills and releases of contaminants from the railyard operations.

Secondary sources include contaminated groundwater, surface soil, and subsurface soils. Contaminants migrate from the soil to the groundwater and flow with the groundwater to form a contaminant plume. Contaminants may also volatilize from the soil and groundwater, forming vapors, which can move into overlying structures. These sources and migration pathways result in potential exposures for humans through drinking or using contaminated groundwater, breathing contaminated air inside buildings, breathing contaminated air from utility or construction trenches and excavations, or coming into contact with contaminated surface or subsurface soils.

5.2 BN Missoula Facility Overview

5.2.1 Geographic Setting

The Missoula Valley is the eastern portion of a long intermontane depression trending west-northwest from the City of Missoula. The valley covers approximately 35 square miles and is bounded by the Rattlesnake Mountains to the north, the Sapphire Mountains to the southeast, and the Bitterroot Mountains to the south. The valley is drained, in part, by the Clark Fork River, which also serves as a recharge/discharge zone for the regional aquifer (Kennedy/Jenks, 2000). Most of the valley floor is relatively flat. The valley bottom is generally sloped to the northwest (McMurtrey, 1965). The Facility and its vicinity, to the north of the Clark Fork River, slope gently (less than 0.5 percent) to the southwest toward the river. The Missoula Valley is drained by the Clark Fork and Bitterroot Rivers. The Clark Fork River enters the valley from the east through the 1,500-foot-deep Hellgate Canyon and flows westward for about seven miles, where it converges with the Bitterroot River. Several smaller streams enter the valley from the surrounding highlands, including Rattlesnake Creek near the eastern portion of the Facility. Ground surface elevations onsite range from about 3,207 to 3,218 feet above mean sea level (Kennedy/Jenks, 2000).

5.2.2 Climate

The climate of the Missoula Valley is semiarid. Winter is dominated by Pacific maritime air, which is occasionally displaced by cold continental air draining through the Clark Fork Valley. Annual precipitation averages 14.13 inches (based on a 30-year average) (NOAA, 2016). Peak precipitation typically occurs in May and June, although high-intensity storms in July and August may also contribute significant precipitation (Woessner, 1988). January and February typically have the least precipitation. The average winter snowfall in the Missoula Valley is 37.9 inches. During the winter (December through February), the average temperature is 26.6 degrees Fahrenheit (°F), and the average daily minimum temperature is 18.7°F. In the summer months (June through August), the average temperature is 65.7°F, and the average daily maximum temperature is 82°F (Bureau of Census, 2010). Light winds dominate in the area with 79 percent

of observations below 10 knots. Northwest winds are the most frequent (20 percent) followed closely by west (18 percent) and north (16 percent) winds. The wind rarely blows from the southwest or northeast due to the topography of the surrounding area. Westerly winds are more frequent than northwesterly winds during the colder months (October through March), while northwesterly winds are more frequent than westerly winds during the warm months (April through September). Winds from the east and southeast occur more frequently during the winter months (WeatherSpark, 2016).

5.2.3 Hydrogeology

The Missoula Basin is a fault-bounded structural basin. The surrounding mountains are comprised of Precambrian meta-sedimentary rocks of the Belt Supergroup, which range from 0.8 to 1.6 billion years in age. Quaternary alluvial deposits and Glacial Lake Missoula clays are exposed at the surface in the Missoula Valley. Glacial Lake Missoula, which periodically covered the valley for extended periods of time, was created by periodic damming of the Clark Fork and Columbia Rivers during Pleistocene glacial episodes. The poorly graded alluvial sands and subangular gravels, derived in part from the Belt Supergroup, interfinger locally with Tertiary sediments and Glacial Lake Missoula clays around the basin margins (Kennedy/Jenks, 2000).

The Quaternary sediments are generally underlain by Tertiary sediments derived from continental clastic basin-fill deposits. These Tertiary sediments are typically fine-grained and overlie the older valley basement rocks. Up to 2,500 feet of these sediments may be preserved in the valley (McMurtrey, 1965), though surface exposure of the Tertiary sediments is rare (Kennedy/Jenks, 2000).

In general, the Facility is underlain by mostly sand and gravel interbedded with silt and clay to depths of greater than 125 feet (as observed during the boring of nested piezometers NP-1). These unconsolidated sedimentary deposits of glaciolacustrine and glaciofluvial origins abut a bedrock escarpment that slopes southward under the Facility. Recent alluvium comprises the uppermost soils. A thin veneer of organic topsoil (i.e., less than six inches) has been observed locally in relatively undisturbed areas of the Facility (Kennedy/Jenks, 2000).

The unconsolidated sedimentary deposits underlying the Facility from the surface to between 28 and 36 feet below ground surface (bgs) consist mainly of gravel with sand and some cobbles. These upper soils are underlain locally by a fine-grained zone that acts as an aquitard or a “perching layer” for groundwater. The presence of this aquitard has created a perched groundwater zone of limited extent in the northwestern portion of the Facility. This aquitard (the top of which has been encountered at depths ranging from 28 to 40 feet bgs) ranges from 0.5 to 6 feet thick and is composed predominantly of clay to silty clay. The aquitard thins laterally and becomes coarser to the south and east (Kennedy/Jenks, 2000).

Below the aquitard, unconsolidated deposits consist of a complex sequence of gravel and sand interbedded with clay and silt. A lean clay unit is present from about 55 to 65 feet bgs around the

former roundhouse and extends to the south toward the Facility boundary. Farther to the south, these fine-grained soils grade to predominantly gravels and sands (Kennedy/Jenks, 2000).

Two distinct saturated zones comprised of unconsolidated sedimentary deposits underlie the Facility: the perched zone and the regional aquifer. An aquitard that creates a thin perched groundwater zone underlying the northwestern portion of the Facility may be the remnants of clay sediments of Glacial Lake Missoula that interfinger with the coarse-grained alluvial sediments (Kennedy/Jenks, 2000).

The regional aquifer beneath the Facility is apparently situated at the transition zone of three hydrostratigraphic units: Quaternary alluvial deposits (i.e., the regional aquifer), unconsolidated Tertiary sediments, and the bedrock (includes both Precambrian Belt Formation rocks and Tertiary-age consolidated colluvium). In the Missoula Valley, the regional aquifer is typically defined as the Quaternary alluvial aquifer. Beneath the Facility, the alluvial aquifer overlies or interfingers with Quaternary and Tertiary-age glacial lacustrine clay and bedrock consisting of Belt Formation rock and consolidated colluvium. Throughout this document, the term “regional aquifer” is used to describe the water table aquifer that consists of these complex hydrostratigraphic systems (Kennedy/Jenks, 2000).

The regional aquifer water table has been encountered at depths ranging from 53 to 68 feet bgs at the Facility. Seasonal low and high groundwater level conditions are observed in March and June of each year, respectively. The seasonal groundwater table fluctuation in the regional aquifer is approximately 12 feet on average. The base of the regional aquifer beneath the Facility was apparently encountered during the boring of NP-2 and NP-3 at 89 and 125 feet bgs, respectively. Bedrock consisting of consolidated sediments was encountered in both borings. The groundwater flow direction in the regional aquifer is generally to the west-southwest. North of the Clark Fork River, the direction of groundwater flow is generally parallel to the river. Beneath the Facility, the groundwater flow direction in the regional aquifer is generally northwest to southwest with local variations from southeast to south-southwest (Kennedy/Jenks, 2000). The hydraulic gradient in the regional aquifer based on the June 2020 gauging data was approximately 0.003 foot per foot (ft/ft) between M-58 and M-56 and 0.001 ft/ft between M-35 and M-36, which is within the range of historical gradient values (Arcadis, 2021b). The regional aquifer potentiometric surface based on the 2019 and 2020 gauging data is shown on Figures 5a, 6a, 7a, and 8a.

The perched zone appears to occur only in the northwestern portion of the Facility (beneath the WFA) at depths ranging from 28 to 40 feet bgs, with a saturated thickness from 1 to 7 feet. Maximum perched water level fluctuation is approximately two feet (Kennedy/Jenks, 2000). The perched zone potentiometric surface based on the 2019 and 2020 gauging data is shown on Figures 5b, 6b, 7b, and 8b.

5.2.4 Surface Water

The two surface water bodies in the vicinity of the Facility are the Rattlesnake Creek (located just east of the Facility) and the Clark Fork River (located approximately 1/2 mile south of the Facility). Rattlesnake Creek flows south from the Rattlesnake Mountains and has a drainage area of approximately 80 square miles. The mean daily discharge for Rattlesnake Creek is 125 cubic feet per second (cfs) for the period of record (USGS, 2020). The creek provided water to the Missoula municipal water supply from 1875 until 1983 when municipal water withdrawal was discontinued due to *Giardia* contamination. Some minor diversion of the creek flow occurs for agricultural purposes, but most of its flow enters the Clark Fork River near downtown Missoula. The Clark Fork River emerges from the eastern margin of the valley through Hellgate Canyon and flows westward approximately seven miles, where it converges with the Bitterroot River. The Clark Fork River has a drainage area of nearly 6,000 square miles. USGS gaging station 12340500, located 2.8 miles upstream from Missoula, has recorded a mean daily discharge of 2,955 cfs from 1929 through 2019. A maximum recorded daily flow of 31,500 cfs occurred on May 11, 2018, and a minimum flow of 340 cfs occurred on September 27, 1937. The lowest mean monthly flow occurs in January (~1,330 cfs), and the highest mean monthly flow occurs during spring runoff in June (~8,230 cfs) (USGS, 2020). Both Rattlesnake Creek and the Clark Fork River are channelized in the Facility vicinity, and no wetlands or floodplains have been identified on or near the Facility. The Facility is not located within the Clark Fork River or the Rattlesnake Creek 100-year floodplains depicted on Federal Emergency Management Administration maps.

Based on Administrative Rules of Montana (ARM) 17.30.607, the water use classification for these surface waters in the vicinity of the Facility are as follows:

- Rattlesnake Creek drainage to the Missoula water supply intake (approximately latitude 46.9149, longitude -113.9638) is classified as “A-Closed.”
- Rattlesnake Creek from the Missoula water supply intake to the confluence with the Clark Fork River is classified as “B-1.”
- Clark Fork River drainage area is classified “B-1” in the vicinity of the Facility.

Waters classified A-Closed are to be maintained suitable for drinking, culinary, and food processing purposes after simple disinfection. Water quality is to be maintained suitable for swimming, recreation, growth, and propagation of fishes and associated aquatic life, although access restrictions to protect public health may limit actual use of A-Closed waters for these uses [ARM 17.30.621]. Waters classified B-1 are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply [ARM 17.30.623].

5.2.5 Groundwater

In 1988, EPA designated the regional aquifer as a Sole Source Aquifer (EPA, 1988). EPA defines a sole or principal source where the aquifer provides more than 50 percent of the drinking water consumed in the overlying area, and where there is no viable alternative drinking water source. The Sole Source Aquifer program was established under Section 1424(e) of the Safe Drinking Water Act.

Groundwater produced from the regional aquifer is generally of good quality and typically meets federal and state drinking water standards. Groundwater contours for 2019 and 2020 for the regional aquifer and perched zone are shown in Figures 5a/b, 6a/b, 7a/b, and 8a/b. Groundwater in the regional aquifer is calcium-bicarbonate type and is considered moderately hard.

Concentrations of total dissolved solids (TDS) typically are less than 350 milligrams per liter (mg/L); and chloride and sulfate concentrations usually are less than 10 and 30 mg/L, respectively (Woessner, 1988). Seasonal fluctuations in TDS measured in water samples collected from wells near the Clark Fork River approximate TDS changes measured in the river (Hydrometrics, 1984).

The specific conductance values measured during the RI sampling ranged from 250 to 1,530 microSiemens per centimeter ($\mu\text{S}/\text{cm}$). ARM 17.30.1006 identifies how groundwater is to be classified according to the specific conductance measurements. If groundwater exhibits a variety of specific conductance measurements, the lowest specific conductivity for the groundwater at the Facility corresponding to the highest quality is appropriate for classification. Based on these criteria, the groundwater at the Facility is Class I. Class I groundwater is generally suitable for public and private water supplies, culinary and food processing purposes, irrigation, livestock and wildlife watering, and for commercial and industrial purposes with little or no treatment (Kennedy/Jenks, 2000).

The regional aquifer is the primary drinking water source for the city. Currently, Missoula Water (formerly Mountain Water Company) has 35 municipal water supply production wells. These production wells yield between 220 to 6,700 gallons per minute (gpm) with most wells pumping at greater than 1,000 gpm. Two Missoula Water wells are in use north of the Clark Fork River (which creates a groundwater divide) and downgradient of the Facility (within one mile of the Facility). The two wells are located at Bank/Pattee Street (pumping rate: 3,200 gpm) and Kiwanis/Clay Street (pumping rate: 3,400 gpm). Another well located within 1 mile of the railyard at Dickenson/Defoe Street has been offline since 1999 (Miller, 2014).

5.3 Facility Contamination

Data was collected prior to the RI, during the RI, and subsequent to the RI. The data identified sources of contamination and the extent of contamination in soils, groundwater, soil vapor, and indoor air. DEQ evaluated the data to determine risks to human health and the environment and to develop and evaluate cleanup options. During the RI and subsequential investigations,

groundwater, surface soil, and subsurface soil were collected and sampled. Indoor air, sub-slab soil vapor, and ambient outdoor air samples were collected subsequent to the RI. The findings of the RI and subsequent investigations are summarized below.

5.3.1 Groundwater

Groundwater has been impacted beneath the Facility in both the perched zone and the regional aquifer. Data from the most recent groundwater monitoring events in March and June 2019, June 2020, and March 2021 showed detections of the following contaminants: EPH fractions, VPH fractions, VOCs, PAHs and several other SVOCs, and the metals arsenic and barium. However, only EPH fractions, PAHs, and arsenic exceeded SSCLs in 2019, and in 2020, arsenic and the EPH fractions were below SSCLs for the first time, leaving only exceedances of PAHs and one other SVOC. In March 2021, EPH fractions, three PAHs, and arsenic exceeded SSCLs. Additionally, after temporary increases in free product thickness in the perched zone following the December 2016 MRL diesel fuel release, free product thicknesses have stabilized or declined in the relevant monitoring wells (Arcadis, 2021a) (Arcadis, 2021b).

Groundwater sampling has been conducted at the Facility since 1987, and groundwater samples are collected from monitoring wells in both the regional aquifer and perched zone. Groundwater is sampled at the Facility on a semi-annual basis, during seasonal high and low groundwater (in approximately June and March, respectively). In 2020, the low groundwater event was unable to be conducted due to precautions surrounding the early days of the COVID-19 pandemic; appropriate procedures were in place that allowed the June event to occur on schedule. The March and June 2021 sampling events occurred on schedule, but June data was not available for evaluation in the ROD.

Historically, groundwater was not sampled in wells containing measurable free product, sheen, or film and instead focused on “sentry wells” on the fringes of the free product plume. As the free product in the subsurface has decreased, wells which were not historically sampled became available for sampling and were added to the groundwater monitoring schedule in 2016. The addition of these wells has produced a more robust groundwater data set than was available prior to 2016, thus providing a better understanding of the dissolved phase contamination in groundwater at the Facility.

5.3.1.1 Regional Aquifer

SSCLs for groundwater in the regional aquifer and perched zone are both based on the Montana DEQ-7 water quality standards (DEQ, 2019), the EPA maximum contaminant levels (MCLs) (EPA, 2009a), and Montana DEQ’s Risk-Based Corrective Action risk-based screening levels (RBSLs) (DEQ, 2018). Historically, groundwater in the regional aquifer has been contaminated with VOCs (primarily TCE, benzene, and naphthalene), SVOCs (bis(2-ethylhexyl) phthalate and

others), EPH fractions (C9-C18 aliphatics, C19-C36 aliphatics, and C11-C22 aromatics), PAHs (primarily benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene), and dissolved metals (arsenic, barium, iron, and manganese). The 2019 groundwater data showed exceedances of SSCLs in regional aquifer monitoring wells for all the EPH fractions (C9-C18 aliphatics, C11-C22 aromatics, C19-C36 aliphatic), arsenic, and PAHs (1-methylnaphthalene, acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and fluorene). The June 2020 groundwater data showed SSCL exceedances only of n-nitrosodimethylamine (an SVOC) in the regional aquifer. The March 2021 data showed exceedances of SSCLs in the regional aquifer wells for the PAHs dibenzo(a,h) anthracene, 1-methylnaphthalene, 2-methylnaphthalene, EPH fractions C9-C18 aliphatics, C11-C22 aromatics, and arsenic (Arcadis, 2021a). The monitoring wells with exceedances in 2019, 2020, and 2021 were consistent with wells exceeding in 2018 and prior. The current distribution and extent of COCs greater than SSCLs in the regional aquifer is shown on Figure 9.

The concentrations of most COCs in the regional aquifer wells have decreased over time. As noted above, wells that historically contained free product have not been consistently sampled. In March 2016, BNSF proposed to revise the groundwater monitoring schedule to add certain wells that had historically contained measurable LNAPL (free product), but which no longer displayed signs of free product. DEQ required revisions to this proposal, and subsequently an additional twelve monitoring wells were added to the semi-annual schedule, and the analytical suites for select wells in the monitoring schedule were updated. These additions and modifications were performed to aid in the decision-making process during the remedy evaluation in the FS and Proposed Plan.

These new wells added to the sampling program in 2016, and which have continued to be sampled through the present, account for the majority of SSCL exceedances for the regional aquifer for the last five years. As part of remedy implementation, DEQ will revise the groundwater monitoring schedule as needed to ensure that adequate data is being collected to evaluate COC presence and distribution in the regional aquifer.

5.3.1.2 Perched Zone

The perched zone is located in the northwestern portion of the Facility, and partially underlays the WFA. COC data for the perched zone is more intermittent, as perched zone groundwater recharge is largely a function of surface infiltration of precipitation, and thus some wells are periodically found to be dry. Additionally, perched wells, which historically contained free product, were not sampled when free product was present. Only two perched zone wells (M-41 and M-46) have consistent analytical data available, although perched zone well M-50 was added to the groundwater monitoring schedule in March 2016 because it no longer contained free product. The 2019 groundwater data from these three wells showed that only 1-methylnaphthalene exceeded its SSCLs in perched zone monitoring wells, and in 2020, 1-methylnaphthalene and three other PAHs (benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)

anthracene) exceeded SSCLs in perched zone monitoring wells. The March 2021 data for M-50 (only perched wells sampled in March event; all three sampled during June events) showed an exceedance of only 1-methylnaphthalene (Arcadis, 2021a). The current distribution of COCs in the perched zone is shown in Figure 10.

Due to the intermittent nature of data collection at perched zone wells, and the limited quantity of wells available for sampling, there are no clear COC trends in the perched zone. Wells in the perched zone which have not historically been sampled due to the presence of LNAPL will be monitored as remedy implementation progresses. Wells that cease to exhibit the presence of LNAPL may be added to the groundwater monitoring schedule as data needs warrant; DEQ will determine long-term monitoring requirements after it issues the ROD and the performance/long-term monitoring program for the selected remedy is identified.

5.3.2 Soil

Surface (0-2 feet bgs) and subsurface (greater than 2 feet bgs) soil samples were collected onsite and offsite. Contaminants detected in onsite surface and subsurface soils at the Facility include VOCs (benzene, bromomethane, methyl tert-butyl ether, methylene chloride, PCE and TCE), SVOCs (3,3'-dichlorobenzidine, 2,4-dinitrotoluene, 2,6-dinitrotoluene, and n-nitrosodi-n-propylamine), PAHs [benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, 1-methylnaphthalene, and 2-methylnaphthalene], pesticides (dieldrin, 4,4'-DDD, 4,4'-DDT), pentachlorophenol, metals (aluminum, antimony, arsenic, cadmium, cobalt, copper, iron, lead, manganese, mercury, thallium, and vanadium), and petroleum hydrocarbons (C9-C12 aliphatics, C9-C18 aliphatics, and C11-C22 aromatics). Onsite concentrations of contaminants detected in surface and subsurface soils are highest in the EFA and WFA, as well as near the former roundhouse area. While onsite surface soils were identified as exceeding generic screening levels for various uses (including residential), the evaluation and calculation of SSCLs in the risk assessment, showed there were no exceedances of SSCLs for commercial/industrial or construction worker usage identified, throughout the railyard. However, onsite surface soils do exceed residential screening levels throughout the railyard. Similarly, subsurface soils were not identified as exceeding SSCLs after the risk assessment and fate and transport evaluation.

Offsite surface soil samples collected from residential yards to the north and south of the railyard showed detections of PAHs [benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene], methylene chloride, and metals (aluminum, antimony, cobalt, iron, lead, and manganese). After evaluation during the risk assessment and additional sampling to evaluate current concentrations, the only COC in offsite surface soils is carcinogenic PAHs (cPAHs). However, the concentrations of cPAHs in offsite residential soils are below the residential SSCL for total cPAHs (Kennedy/Jenks, 2017).

Additional information regarding concentrations for individual chemicals detected in soil can be found in Tables 3 through 8, 29 and 30, of the Final RI (Kennedy/Jenks, 2000) and in subsequent

sampling reports (Kennedy/Jenks, 2005a) (Kennedy/Jenks, 2006a) (Kennedy/Jenks, 2006c) (Kennedy/Jenks, 2007) (Kennedy/Jenks, 2013b) (Kennedy/Jenks, 2014a) (Kennedy/Jenks, 2016b) (Kennedy/Jenks, 2016d).

5.3.3 Soil Vapor

BNSF conducted a VI investigation consisting of several rounds of sampling at the BN Missoula Facility between 2010 and 2013 (Kennedy/Jenks, 2012) (Kennedy/Jenks, 2013a). Soil vapor samples, indoor air samples, sub-slab vapor samples, and ambient outdoor air samples were collected from onsite and offsite locations. The COCs for VI included benzene, ethylbenzene, naphthalene, 1,2,4-trimethylbenzene, PCE, TCE, C5-C8 aliphatics, C9-C12 aliphatics, and C9-C10 aromatics. SSSLs were developed as part of the VI investigation. Based upon evaluation of the available multiple lines of evidence and the SSSLs, VI is not a significant contributor to indoor air COC concentrations at the Facility. Based upon this information, DEQ did not consider VI in its selection of the final remedy for the BN Missoula Facility.

5.3.4 Light Non-Aqueous Phase Liquid (LNAPL)

Locomotive fueling operations conducted at the Facility resulted in diesel fuel releases to soil and groundwater. LNAPL (in the form of diesel fuel; interchangeably referred to as free product throughout this document) has been observed in monitoring wells at the Facility since investigations began in 1985. It has been observed in monitoring wells in both the regional aquifer and the perched zone, and in both the EFA and WFA. LNAPL has historically been measured at thicknesses as great as 11.02 feet (well MR-6, March 2003). BNSF began active recovery of free product at the Facility in 1987. Approximately 3,240 gallons of LNAPL were recovered from the EFA between 1987 and 1991, primarily using a dual-pump system to draw down the water table and extract free product. BNSF shut the system down in 1991, as free product recovery volumes had declined sharply.

In the WFA, BNSF conducted LNAPL recovery in both the regional aquifer and perched zone. A variety of recovery technologies were employed, including periodical free product recovery using a peristaltic pump, and the installation of a total fluids recovery system in 1993. LNAPL was pumped from wells M-7, M-13, M-15, M-18, M-21, M-23, M-29, M-38, MR-3, MR-4, and MR-6. Approximately 1,570 gallons of LNAPL were recovered from 1990 to 2009. The total fluids recovery system was decommissioned in 2009, having only recovered 25 gallons of free product over the course of the previous five years. BNSF conducted skimming operations from 2007 to 2012, with LNAPL skimmers installed in wells M-52 and M-57 in the regional aquifer. A total of 14 gallons of LNAPL were recovered using the skimming system. Absorbent socks installed in five perched zone wells (M-7, M-18, M-50, MR-2, and MR-7) in May 2014 recovered approximately 11.1 gallons through December 2018.

“Measurable LNAPL” (i.e. LNAPL thicknesses greater than 0.01 feet) has decreased at the Facility over time. Prior to the December 2016 diesel fuel release, LNAPL thicknesses were observed seven times over the previous five years at greater than 1-foot thickness, with a maximum LNAPL thickness of 2.15 feet observed in M-13 in 2013. As of June 2019, measurable LNAPL was detected in perched zone wells M-23, MR-7, PMW-1, and PMW-2 and sheen was detection in M-16, M-18, and M-50. Measurable LNAPL was also detected in well M-52 and sheen in well M-57 in the regional aquifer in June 2019. The placement of absorbent socks in perched wells that have historically contained measurable LNAPL appears to have reduced the observation of LNAPL in those wells but also demonstrates that free product is still present in the perched groundwater system. Seventeen wells across the Facility have had measurable LNAPL at least once since the 2016 diesel fuel release. Historical and current LNAPL extents in the regional aquifer and perched zone are depicted in Figures 11 and 12, respectively.

6.0 Current and Reasonably Anticipated Future Land and Resources Uses

6.1 Land Uses

Current and potential future land use was evaluated as part of the BRA and SSCLs protective of those uses were calculated. The portion of the BN Missoula Facility owned by BNSF is currently being operated as a railyard and refueling area by MRL. North of the facility boundary, property is primarily residential and commercial businesses. Residential property is also located to the southeast of the railyard within the facility boundary and commercial/industrial property is located southwest of the railyard and within the facility boundary.

Section 75-10-721, MCA, is the statutory provision that DEQ follows in selecting the final remedy at a CECRA facility. Subsection (2)(c) directs that DEQ “shall select remedial actions, considering present and reasonably anticipated future uses....”

Section 75-10-701(18), MCA, defines “reasonably anticipated futures uses” as “likely future land or resource uses that take into consideration:

- (a) local land and resource use regulations, ordinances, restrictions, or covenants;
- (b) historical and anticipated uses of the facility;
- (c) patterns of development in the immediate area; and
- (d) relevant indications of anticipated land use from the owner of the facility and local planning officials.”

The determination of the “reasonably anticipated future use” impacts the SSCLs that must be met as part of the remediation at the Facility.

Under CECRA, DEQ is required to ensure that the selected remedy protects public health, safety, and welfare and the environment. Generally, evaluating the protectiveness of a remedy includes analysis of the underlying assumptions for exposure based on the reasonably anticipated future

use (as defined in Section 75-10-701(18), MCA) of real property at the Facility. The remedial actions selected by DEQ will achieve SSCLs consistent with the current and reasonably anticipated future land use.

In order to ensure a comprehensive evaluation of the reasonably anticipated future use of the Facility, DEQ has evaluated the reasonably anticipated future use of real property owned by BNSF, and currently leased by MRL (referred to as “onsite” or “railyard” property), separate from real property within the Facility owned or operated by other entities as residential or commercial (referred to as “offsite” or “non-railyard” property). This designation of onsite and offsite property is consistent with the exposure evaluation performed in the BRA (see Section 7.0).

6.1.1 Onsite Property

When making the determination of reasonably anticipated future use of the onsite property, DEQ analyzed the four criteria identified in Section 75-10-701(18), MCA, as follows:

- a) Local land and resource use regulations, ordinances, restrictions, or covenants

According to the City of Missoula zoning map, the area of the BN Missoula Facility within the railyard is zoned as M1R, which is used to denote areas with Limited Industrial-Residential use. The current Missoula zoning regulations allow for a large variety of uses on M1R property, including residential, commercial, public/civic, and industrial uses (City of Missoula, 2016).

However, while current zoning allows for residential use, DEQ cannot ignore that the Facility’s current status as a railyard also involves federal regulations. While these federal regulations are not “local ... regulations, ordinances restrictions, or covenants” specifically contemplated by Section 75-10-701(18)(a), MCA, they may impact the local zoning regulations. Railroads and railroad property are governed by the ICC Termination Act of 1995 (ICCTA), 49 United States Code (USC) §§ 10501 *et seq.*, which established the Surface Transportation Board (STB). As part of the ICCTA, the STB retains broad and exclusive authority over construction, acquisition, operation, abandonment, or discontinuance of spur, industrial, team, switching, or side tracks, or facilities. The ICCTA also defines rail yard to include any “freight depot, yard, or ground necessary for transportation.” (49 USC § 10102(6)(C)). Under this federal law, the ICCTA retains authority over the rail line, depot, railyard, and related grounds included in the onsite property and, before BNSF could consider allowing it for residential use, BNSF would be required to formally apply for a change of use with the STB.

The application process for abandonment includes providing the STB with the reasons for abandonment and a statement that the affected property is for sale, along with various notices. After the application, the STB needs to approve the abandonment for the property to be available for sale, and the rail properties offered for sale can only be sold under the conditions provided for in the STB’s order. Therefore, the City of Missoula’s zoning of this property as M1R may be of limited use in evaluating this factor due to the federal regulations.

(b) Historical and anticipated uses of the Facility

The onsite portion of the Facility has been used as a railyard since 1883. BNSF has indicated its property will be used as a railyard for the foreseeable future, and the property is currently subject to a long-term lease with MRL, who has also indicated an intent to continue use of the property as a railyard. In addition, the Missoula railyard is part of the Strategic Rail Corridor Network (STRACNET) and its associated connector lines, which are those civil rail lines designated as most important to national defense (MSDDCTEA, 2018). The inclusion of the Missoula railyard in STRACNET supports the anticipated future use of the onsite property as a railyard.

(c) Patterns of development in the immediate area

The onsite portion of the Facility has remained as a railyard for almost 140 years. While much of downtown has been redeveloped in some way, the immediate area of the Facility has continued to be used as a combination of commercial/industrial and residential, with some recent residential development infilling in multiple directions around the railyard.

(d) Relevant indications of anticipated land use from the owner of the Facility and local planning officials.

DEQ solicited input from BNSF as the owner of the onsite portion of the Facility and from both city and county planning officials. Because the onsite portion of the Facility is subject to a long-term lease, DEQ also sought MRL's input. Both BNSF and MRL indicated their intention that the onsite property continue as a railyard in the future. City and county planning officials indicated a desire for the railyard to be converted into mixed-use commercial/residential property.

DEQ is also aware that the City of Missoula revised its Downtown Master Plan in 2019 and that it states development of the railyard "should be considered as a possibility and thought of and discussed as a long-term possibility for downtown" (City of Missoula, 2019). This version of the plan updated the 2009 version of the plan, which indicated "there are currently no plans to abandon or relocate rail tracks or operations, but should the present uses be relocated or removed..." (City of Missoula, 2009). While growth policies, including master plans, are not "regulations, ordinances restrictions, or covenants" contemplated by Section 75-10-701(18)(a), MCA, DEQ considered the existing Downtown Master Plan in evaluating Section 75-10-701(18)(d), MCA.

DEQ has conducted the statutory analysis of "reasonably anticipated future use" using the information available to it, including that in the administrative record, and has also considered the public comment it received during the public comment period. There were many public comments asking that the reasonably anticipated future use of the onsite portion of the Facility be residential, although there were also public comments indicating that it should remain as a railyard. After careful consideration, DEQ has determined that the reasonably anticipated future use of the onsite portion of the BN Missoula Facility, currently owned by BNSF, is commercial/industrial.

The current zoning allows for some residential use, but that zoning must be considered in light of the federal railroad regulations that govern the railyard. Current and historical use of the onsite portion of the Facility is commercial/industrial, and it is designated as part of STRACNET (MSDDCTEA, 2018). While the onsite portions of the Facility remain wholly commercial/industrial, DEQ recognizes there has been residential development offsite. Finally, the relevant indications from the owner of the onsite property and local planning authorities were at odds, with the owner indicating no intention to use the onsite property for anything besides commercial/industrial and the local planning authorities indicating a desire for future residential use. DEQ analyzed the “reasonably anticipated future use” of the onsite property as directed by Section 75-10-701(18), MCA, and considered the comments received during the public comment period and determined the reasonably anticipated future use of the onsite portion of the BN Missoula Facility is commercial/industrial.

6.1.2 Offsite Property

When making the determination of reasonably anticipated future use of the offsite property, DEQ analyzed the four criteria identified in Section 75-10-701(18), MCA, as follows:

a) Local land and resource use regulations, ordinances, restrictions, or covenants

According to the City of Missoula zoning map, the offsite areas of the Facility are zoned as C1-4, C2-4, or CBD-4, which allow mixed commercial/residential use (City of Missoula, 2016).

(b) Historical and anticipated uses of the Facility

Historically, the offsite areas located to the southeast and southwest of the railyard (included with the Facility based upon the extent of the groundwater plume) have been used as residential property and commercial/industrial property, respectively. That use is expected to continue.

(c) Patterns of development in the immediate area

Patterns of development in the offsite areas of the Facility, along with their immediate vicinity, have been commercial/residential, where not precluded by the presence of Interstate 90, with residential development infilling where possible. These patterns look to remain commercial and residential in the future.

(d) Relevant indications of anticipated land use from the owner of the Facility and local planning officials.

DEQ solicited input from the City of Missoula and Missoula County local planning officials concerning plans for the offsite areas of the Facility. City and county planning officials indicated that offsite areas of the Facility would continue to be utilized for commercial and residential uses.

DEQ analyzed the “reasonably anticipated future use” of the offsite property as directed by Section 75-10-701(18), MCA, and considered the comments received during the public comment

period and determined the reasonably anticipated future use of the offsite portion of the BN Missoula Facility is residential and/or commercial.

6.2 Groundwater Uses

In 1988, EPA designated the Missoula Aquifer as a Sole Source Aquifer (EPA, 1988). EPA defines a sole or principal source where the aquifer provides more than 50 percent of the drinking water consumed in the overlying area, and where there is no viable alternative drinking water source. The Sole Source Aquifer program was established under Section 1424(e) of the Safe Drinking Water Act. The City of Missoula (operating as Missoula Water Company (MWC)) supplies drinking water via 35 municipal water supply production wells with two of these wells within a mile downgradient of the Facility boundary. Additionally, the groundwater quality at the Facility has been classified as Class I. Class I groundwater is generally suitable for public and private water supplies, culinary and food processing purposes, irrigation, livestock and wildlife watering, and for commercial and industrial purposes with little or no treatment (Kennedy/Jenks, 2000). There is currently no usage of groundwater at the BN Missoula Facility.

Two MWC wells are in use north of the Clark Fork River (which creates a groundwater divide) and downgradient of the railyard (within 1 mile of the railyard). The two wells are located at Bank/Pattee Street (pumping rate: 3,200 gpm) and Kiwanis/Clay Street (pumping rate: 3,400 gpm). Another well located within 1 mile of the railyard at Dickenson/Defoe Street has been offline since 1999, due to contamination from the Missoula White Pine Sash Site (Miller, 2014).

The Missoula Valley Water Quality Ordinance prohibits the installation of community wells and non-community, non-transient wells in certain areas of the valley (MVWQD, 2008). New wells are prohibited within 1,000 feet of any known release to groundwater which has been reported to state or federal officials, and within 1,000 feet of the Yellowstone pipeline

6.3 Surface Water Uses

Two surface water bodies in the vicinity of the Facility are the Rattlesnake Creek (located just east of the Facility) and the Clark Fork River (located approximately ½ miles south of the Facility). Rattlesnake Creek did provide water to the Missoula municipal water supply from 1875 until 1983 when it was discontinued due to *Giardia* contamination. There is no current usage of surface water at the Facility.

7.0 Human Health and Ecological Risk Analysis

BNSF completed a BRA for the BN Missoula Facility in 2015 (Kennedy/Jenks, 2015). The BRA process identifies COPCs, exposure pathways, exposure assumptions, toxicity values, and calculates SSCLs protective of human health and the environment at the Facility for media in

each exposure area. The exposure areas include onsite areas (within the railyard) and offsite areas (outside the railyard). The intent of the BRA was to estimate human health and environmental risks associated with current and potential future conditions at the BN Missoula Facility assuming that no further remediation will occur. Preparation of the BRA began in 2009; however, based on advancements in the study of VI, DEQ concluded that contaminant concentrations in groundwater were such that a complete VI investigation was necessary. BNSF conducted VI investigations between 2010 and 2013, evaluating the soil vapor pathway for onsite and offsite locations. The results of these investigations are summarized in the 2012 Final Vapor Intrusion Investigation Report Revision No. 3 (Kennedy/Jenks, 2012) and the 2013 Vapor Intrusion Addendum Report (Kennedy/Jenks, 2013a). Risks associated with the leaching to groundwater pathway were also evaluated separately, in the Fate and Transport Analysis (FTA) (Kennedy/Jenks, 2014a). These documents collectively summarize the extent of contaminants in all media at the BN Missoula Facility, identify media specific COPCs, assess exposure to COPCs for receptor populations, and calculate SSCLs where appropriate.

In conjunction with the completion of the BRA, DEQ compared the COPC concentrations at the BN Missoula Facility with the SSCLs and DEQ-7 water quality standards. Based upon this evaluation, DEQ identified COCs at concentrations in surface soil and groundwater at the BN Missoula Facility that represent unacceptable risks to human health and the environment and concluded that further remedial action is necessary. Unacceptable risks were identified for the Facility groundwater in the perched zone and regional aquifer and for surface soils associated with offsite residential exposure and onsite residential exposure. However, the EPA updated the toxicity data for benzo(a)pyrene in 2017, after the BRA was completed, and when the revised toxicity information was included in the SSCL calculation for the cPAHs, the concentrations in the offsite residential yards no longer represent an unacceptable risk (Kennedy/Jenks, 2017). Although no excess risk was identified in the soil vapor pathway, cleanup of the soil and groundwater, and removal of LNAPL to the maximum extent practicable, will also address identified soil vapor contamination.

The remedial actions selected in this ROD are necessary to protect public health, safety, and welfare and the environment from actual or threatened releases of hazardous or deleterious substances into the environment and to abate the imminent and substantial endangerment those releases pose.

7.1 Human Health Risks

Populations that were evaluated for potential exposure to contamination at the BN Missoula Facility include current and future onsite railroad workers, current and future onsite construction workers, current and future onsite trespassers, and current and future offsite residents. Screening of onsite surface soil contaminant concentrations against residential screening levels was also performed to evaluate COPCs for current and future onsite residential exposure, resulting in identified exceedances of residential screening levels. However, BNSF focused on its intended future use of the onsite areas as an active railyard and did not qualitatively evaluate risks

associated with the onsite residential exposure scenario in the risk assessment (Kennedy/Jenks, 2015). Site conceptual exposure models for onsite and offsite receptors from the BRA (excluding onsite residential) are provided in Figures 3 and 4, respectively (Kennedy/Jenks, 2015). The BRA concluded that, based upon evaluation of the available multiple lines of evidence and the previously calculated SSSLs, VI was not a significant contributor to indoor air concentrations at any of the locations sampled, so no COPCs were identified for the VI pathway for onsite or offsite receptors and risks from the VI pathway were not quantitatively evaluated. Additionally, DEQ-7 water quality standards (DEQ, 2019) are the lower of a risk-based standard or a MCL, and Tier 1 groundwater RBSLs (DEQ, 2018) are designed to be protective of beneficial use criteria and are based on acceptable risk criteria. Thus, risks from onsite and offsite groundwater COPCs were determined qualitatively by comparison to DEQ-7 water quality standards (including MCLs) or Tier 1 RBSLs. Ingestion of vegetables grown in offsite contaminated soils was also qualitatively evaluated in the BRA, concluding that the contaminant concentrations that could theoretically be present in plants would be very low and the pathway is likely not important for offsite residents. Additional details regarding the above pathways can be found in Section 4.0, Table 10, and Figures 12 and 13 of the BRA (Kennedy/Jenks, 2015).

In the BRA, BNSF estimated potential cancer risk and potential non-cancer effects for incidental ingestion of and dermal contact with surface soil; inhalation of dust and vapors from surface soil; incidental ingestion of and dermal contact with subsurface soil; and inhalation of dust and vapors from subsurface soil. COPCs were identified by their detection frequency, comparison to background concentrations and comparison with toxicity screening criteria. COPCs were then separated based on their effect (i.e., cancer causing or non-cancer effects). Hazard quotients were calculated for non-carcinogenic effects based on target organs or critical effects to ensure that the total hazard index did not exceed 1 for any organ or effect. Cancer risks were calculated to ensure that the total excess lifetime cancer risk did not exceed a one in 100,000 individual excess lifetime cancer risk (1×10^{-5}). "Excess lifetime cancer risk" is additional risk that an individual might have of getting cancer if that person is exposed over the person's lifetime to cancer-causing chemicals associated with the Facility. DEQ considers an additional or excess 1 in 100,000 probability (or 0.001% or 0.00001 or 1×10^{-5}) allowable. The most recent toxicity information available was used to calculate risk levels in the BRA and toxicity information and risk levels were updated for PAHs based on newly released toxicity information (Kennedy/Jenks, 2017). SSCLs are further discussed in Section 7.1.2.

7.1.1 Determination of COCs

COPCs to be retained as COCs for the BN Missoula Facility were identified using data presented in the RI, BRA, and subsequent investigation reports. COPCs that exceed SSCLs are COCs. Primary COCs remaining in soil and groundwater include PAHs; metals, specifically arsenic; and petroleum hydrocarbon fractions (C9-C18 aliphatics, C19-C36 aliphatics and C11-C22 aromatics). Table 1 identifies the chemicals retained as COCs in groundwater and their SSCLs, and Table 2 identifies the chemicals retained as COCs in soil and their SSCLs. A brief discussion

of health effects from exposure to the primary COCs at the BN Missoula Facility is provided below.

7.1.1.1 Health Effects and Hazards

- **PAHs:** According to the Agency for Toxic Substances and Disease Registry (ATSDR), PAHs are a group of over 100 different chemicals that are formed during the incomplete burning of organic substances such as coal, oil and gas, or municipal waste. PAHs are usually found as a mixture containing two or more of these compounds (ATSDR, 1996). Animal studies have demonstrated that PAHs can affect the skin, neurological development, the immune system, and body fluids, in both short-term and long-term exposure scenarios, but these studies have not been replicated in humans. In occupational settings, exposure to PAHs is associated with an increase in lung, skin, and bladder cancers (ATSDR, 2011b). The primary exposure route for PAHs is inhalation. Prolonged human exposure to some PAHs can lead to respiratory issues, including but not limited to breathing problems, lung abnormalities, chest pain and irritation, throat irritation, and increased coughing. A study showed that PAHs can also cause immunological and lymphoreticular effects such as reduced levels of serum immunoglobins, but the significance of such effects is unknown. Carcinogenic PAHs are commonly associated or included with other carcinogens in roofing tar emissions, coke oven emissions, and cigarette smoke, and therefore, studies cannot evaluate the contribution of any individual PAH to the total carcinogenic effects in humans from such mixtures. However, benzo(a)pyrene inhalation studies for animals found a significant increase in lung tumors.
- **Arsenic:** EPA's IRIS classifies arsenic as a Class A human carcinogen (EPA, 1995). Health effects associated with acute arsenic include respiratory irritation, arrhythmia, nausea, vomiting, depressed white and red blood cell counts. Long term, low level exposure can cause darkening of the skin (ATSDR, 2007). Arsenic exposure can lead to lung, skin and bladder cancer, as well as multiple organ system effects, including effects to the cardiovascular system, the renal system, gastrointestinal system and neurologic effects (ATSDR, 2011a).
- **Petroleum hydrocarbons:** Health effects from exposure to petroleum hydrocarbons depend on many factors, including the type of chemical compounds in the petroleum hydrocarbons, how long the exposure lasts, and the amount of the chemicals contacted. Very little is known about the toxicity of many petroleum hydrocarbon compounds. Until more information is available, information about health effects of petroleum hydrocarbons is based on specific compounds or on data for petroleum products that have been studied. According to ATSDR, the compounds in some petroleum hydrocarbon fractions can affect the blood, immune system, liver, spleen, kidneys, developing fetus, and lungs. Certain petroleum hydrocarbon compounds can be irritating to the skin and eyes and can cause neurological affects consisting primarily of central nervous system depression. Other petroleum hydrocarbon compounds, such as some mineral oils, are not very toxic and are used in foods (ATSDR, 1999).

7.1.2 Calculation of Site-Specific Cleanup Levels

The following sections provide a discussion of COCs for each media and a discussion of the calculation of SSCLs. These SSCLs establish acceptable levels that are protective of human health associated with soil and groundwater.

7.1.2.1 Groundwater

The DEQ-7 water quality standards for groundwater are the applicable cleanup levels for groundwater. MCLs are also applicable cleanup levels at the Facility because the regional aquifer is used for public drinking water. For COCs without a DEQ-7 water quality standard or MCL available, the BRA evaluated COPCs by a direct comparison to Tier 1 RBSLs for groundwater. These RBSLs were then identified within the BRA as SSCLs for chemicals without DEQ-7 standards. Wells containing LNAPL have historically not been sampled during semi-annual groundwater monitoring efforts. As LNAPL volumes in the subsurface have decreased, wells which were not historically sampled were added to the groundwater monitoring schedule in 2016. The addition of these wells has produced a more robust groundwater data set than was originally evaluated in the BRA, thus providing a better understanding of the dissolved phase COCs in groundwater at the Facility. Groundwater COCs exceeding SSCLs for the Facility were identified through screening the groundwater data set from 2014 through 2020 (Arcadis, 2021b). The complete COC list for groundwater and their SSCLs is provided in Table 1.

7.1.2.2 Soils

Onsite surface soils were screened against residential screening levels in the BRA to evaluate risk in a potential future onsite residential exposure scenario and onsite surface soils were found to have exceedances of the residential direct contact-based screening levels throughout the railyard. However, DEQ has identified the reasonably anticipated future use of the onsite portions of the Facility to be commercial/industrial. The BRA concluded that there is no unacceptable risk associated with direct contact by railyard workers or construction workers with onsite surface or subsurface soils, meaning no SSCLs were calculated and no additional cleanup is needed in onsite soils when used for commercial/industrial purposes.

The reasonably anticipated future use of the offsite residential properties as residential. The BRA evaluated COPCs identified in the screening of historic data for offsite surface soils and concluded cPAHs were the only COCs for offsite surface soils and therefore the only SSCL calculated for offsite surface soils in the BRA was for total cPAHs (Kennedy/Jenks, 2015). To calculate a total cPAH concentration that can be compared with the calculated SSCL, the concentration of each cPAH detected in a sample is adjusted based on its toxicity relative to benzo(a)pyrene (the most toxic of the cPAHs) using the toxicity equivalent factors established by

EPA, and then they are summed (EPA, 1993a). The BRA established a total cPAH SSCL of 0.23 mg/kg, which was exceeded in some offsite areas. However, in January 2017, after the BRA was completed, the EPA updated the toxicity data for benzo(a)pyrene, so the SSCL for the total cPAHs had to be recalculated using the revised toxicity information. Using the updated toxicity information, the SSCL for the total cPAH is 1.7 mg/kg (see Table 2). When the new SSCL was compared to the concentrations detected in the offsite residential yards, the samples did not exceed the new SSCL, meaning there was no unacceptable risk in these offsite residential areas (Kennedy/Jenks, 2017).

7.1.2.2.1 Lead

The BRA evaluated lead as a COPC for onsite surface soils. Lead is evaluated differently from other chemicals in that it is not based on an effect (cancer/non-cancer) and instead the concentration of lead in the blood is used as an index of the total exposure level; above this blood lead level significant health risks may occur. As a result, the lead concentration detected in soil is directly compared to a level calculated using EPA's Integrated Exposure Uptake Biokinetic (IEUBK) model to represent a protective soil concentration using a blood lead level endpoint of 10 micrograms per deciliter ($\mu\text{g/dL}$). Generic lead screening levels of 400 mg/kg (residential soil) and 800 mg/kg (commercial/industrial soil) are included in the RSL table based on use of the IEUBK model with a 10 $\mu\text{g/dL}$ blood lead level endpoint. Within the BRA, the lead exposure point concentration (a 95% upper confidence limit on the mean calculated using all of the available lead surface soil data collected onsite) of 230 mg/kg was below the lead RSLs for residential soil (400 mg/kg) and commercial/industrial soil (800 mg/kg). As a result, lead was dismissed as a COC in surface soils at the Facility (Kennedy/Jenks, 2015). In 2017, DEQ calculated new screening levels to be used for lead that are based on a 5 $\mu\text{g/dL}$ blood lead level endpoint for the IEUBK model rather than the 10 $\mu\text{g/dL}$ blood lead level endpoint previously used, which were updated in 2021 (DEQ, 2021). This changed approach was based on 2012 Centers for Disease Control information indicating that a blood lead level above 5 $\mu\text{g/dL}$ was likely to result in significant health risks and EPA recommendations to evaluate lead using a 5 $\mu\text{g/dL}$ blood lead endpoint until lead guidance was updated to reflect the change. The lead exposure point concentration of 230 mg/kg for surface soils at the BN Missoula Facility calculated in the BRA exceeds the residential screening level for lead of 200 mg/kg but remains below the commercial/construction worker screening level for lead of 696 mg/kg. Therefore, lead is not a COC for onsite surface soils based on a commercial/industrial use.

7.1.2.2.2 Direct Contact

The presence of residual petroleum hydrocarbon contamination in onsite subsurface soil is anticipated at depths greater than 10 feet and generally in the smear zone (i.e. the subsurface area of thickness varying from approximately 5 to 16 feet in which the water table fluctuates from high to low) as LNAPL; therefore, this contamination does not pose an unacceptable risk from

the standpoint of direct human contact for typical commercial/industrial workers. However, this deep subsurface/smear zone soil contamination is a continued source of groundwater contamination that must be addressed. These deep subsurface/smear zone soils are included in the volume and cost estimates and detailed smear zone volume calculations are presented in Appendix F of the FS (Arcadis, 2021b).

7.1.2.2.3 Leaching to Groundwater

BNSF performed an FTA to evaluate the leaching to groundwater pathway for the COPCs in surface and subsurface soil identified as exceeding leaching-based screening levels in the BRA (Kennedy/Jenks, 2015). A numerical fate and transport model was used to develop SSCLs for surface soils and subsurface soil COPCs listed below (by media) that will be protective of groundwater in the perched zone and regional aquifer (Kennedy/Jenks, 2014a).

Surface Soil:

- VOCs: benzene, bromomethane, methyl tert-butyl ether (MTBE), methylene chloride, PCE, and TCE;
- PAHs: 1-methylnaphthalene and 2-methylnaphthalene;
- SVOCs: 3,3'-dichlorobenzidine, 2,4-dinitrotoluene, 2,6 dinitrotoluene, and n-nitrosodi-n-propylamine;
- Pesticides and herbicides: dieldrin, pentachlorophenol, 4,4'-dichlorodiphenyldichloroethane (4,4'-DDD), and 4,4'-dichlorodiphenyltrichloroethane (4,4'-DDT);
- Metals: antimony, arsenic, barium, cadmium, copper, lead, mercury, and silver; and
- Petroleum hydrocarbons: C11-C22 aromatics.

Subsurface Soil:

- VOCs: benzene and methylene chloride;
- PAHs: naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene; and
- Petroleum hydrocarbons: C9-C10 aromatics and C11-C22 aromatics.

SSCLs were identified by calculating the contaminant concentration in surface and subsurface soils that would result in a concentration greater than the DEQ-7 groundwater standard or RBSL for each COC in the zone being evaluated (perched zone and regional aquifer). SSCLs were not calculated for 4,4'-DDD and 4,4'-DD in surface soils because they were identified to be immobile in the model. For several chemicals, the model generated soil concentrations that

would be protective of groundwater (SSCLs) that were greater than 1 million mg/kg, meaning that the chemical could essentially be present in soils at higher concentrations than could even exist and therefore leaching of these chemicals is not a concern at this Facility. As a result, the following chemicals were eliminated from further consideration as leaching to groundwater COCs and SSCLs were not identified: dieldrin, pentachlorophenol, antimony, arsenic, barium, cadmium, copper, lead, mercury, and silver (Kennedy/Jenks, 2014a).

After the modeling effort, soil samples for SPLP laboratory testing were performed to empirically evaluate (rather than model) the mobility of organic contaminants in soil and determine their potential for leaching to groundwater. SPLP testing demonstrated that some chemicals did not pose an actual (as opposed to modeled) potential for leaching from soil to groundwater; therefore, the modeled results and resulting SSCLs were not applicable. The following chemicals were eliminated from further consideration as leaching-based COCs and SSCLs are not identified: benzene, methy tert-butyl ether (MTBE), 1-methylnaphthalene, 2-methylnaphthalene, and C11-C22 aromatics in surface soils, and benzene, naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, C9-C10 aromatics, and C11-C22 aromatics in subsurface soils (Kennedy/Jenks, 2014a).

During preparation of the FS, BNSF performed a detailed analysis of the historical data for methylene chloride and n-nitrosodi-n propylamine, both of which had been identified as COCs for the leaching to groundwater pathway and were subsequently included in the fate and transport modeling, resulting in calculation of SSCLs for soil that were protective of soil leaching to groundwater (Kennedy/Jenks, 2016c). The evaluation included an evaluation of laboratory method blanks and data validation guidelines, as well as collection of additional soil samples to demonstrate why the chemicals should not be considered leaching-based COCs for the BN Missoula Facility:

- Methylene chloride: BNSF's evaluation demonstrated that the historical methylene chloride detections in the one surface soil and four subsurface soil samples shown to exceed the SSCL for leaching were estimated concentrations rather than true detections, that the estimated detections should be considered non-detected concentrations due to presence of related contamination in the method blank (laboratory quality assurance/quality control sample), and that the estimated concentrations were biased high as a result of the associated laboratory contamination. Further, BNSF demonstrated that methylene chloride was not detected in any of the nearly 400 groundwater samples that have been collected and analyzed for methylene chloride at the Facility since 1997. Based on this information, DEQ approved removal of methylene chloride as a COC for the soil leaching to groundwater pathway in an October 31, 2016 letter (DEQ, 2016). As a result, there is no SSCL identified for methylene chloride.
- N-nitrosodi-n propylamine: BNSF's evaluation showed that n-nitrosodi-n propylamine was detected in two surface soil samples during the 1993 sampling event and the data was qualified as being estimated concentrations. While the estimated detections exceed the leaching-based SSCL, the qualifiers associated with the estimated concentrations indicate that its presence and the reported concentration are uncertain. In addition, one

result was also qualified because the chemical was also reported in the laboratory method blank (quality assurance/quality control sample). Due to the uncertainty in the data, BNSF collected and analyzed additional soil samples in 2016, including samples collected from the two locations where n-nitrosodi-n-propylamine had been detected in the 1993 sampling event. N-nitrosodi-n-propylamine was not detected in any of the 10 soil samples collected by BNSF in 2016. Therefore, DEQ approved removal of n-nitrosodi-n-propylamine as a COC for the leaching to groundwater pathway and no SSCL is identified (Arcadis, 2021b).

The remaining COCs (bromomethane, PCE, TCE, 3,3'-dichlorobenzidine, 2,4-dinitrotoluene, and 2,6-dinitrotoluene) and their corresponding SSCLs computed for the soil leaching to groundwater pathway are provided in Table 2. However, as outlined in detail in Section 2.8.2 of the FS, the maximum detected concentrations of each of these COCs at the BN Missoula Facility are below these SSCLs and therefore no additional cleanup is necessary to address the soil leaching to groundwater pathway for these chemicals.

7.1.2.3 Soil Vapor

BNSF conducted VI investigations at onsite and offsite locations (17 locations total) and based on the results, evaluated contaminants of concern, and calculated indoor air SSSLs based on adjusting the generic screening levels as appropriate to reflect the specific contaminants present at the Facility and their known health effects. Based upon evaluation of the available multiple lines of evidence and the comparison of detected contaminants to the indoor air SSSLs, VI was found to be an insignificant contributor to indoor air concentrations at all of the locations sampled (Kennedy/Jenks, 2012) (Kennedy/Jenks, 2013a). Therefore, the VI pathway was not quantitatively evaluated for onsite or offsite receptors in the BRA (Kennedy/Jenks, 2015) and is not needed to be considered in choosing the remedy

7.1.2.4 LNAPL

Railroad operations at the Facility resulted in diesel fuel releases to the subsurface. Historically, LNAPL has been observed in monitoring wells in both the regional aquifer (in the EFA, WFA and in offsite areas adjacent to the fueling areas) and in the perched zone onsite. Prior to the MRL release in December 2016, measurable LNAPL was detected in one perched zone monitoring well (MR-7). As of June 2019, measurable LNAPL was detected in four perched zone wells and one regional aquifer well, and sheen was detected in three perched zone wells and one regional aquifer well. The BRA did not quantitatively evaluate a SSCL for LNAPL; however, state and federal ERCLs direct that LNAPL must be removed to the maximum extent practicable so as to no longer contribute to groundwater contamination. The SSCL for LNAPL is provided in Table 1.

7.1.3 Evaluation of Uncertainties

This section evaluates uncertainties associated with the BRA found in Section 8 of the BRA (Kennedy/Jenks, 2015). The uncertainties are discussed below.

7.1.3.1 Uncertainties in Data

Sources of uncertainty in the data and site characterization include:

- Selection of locations and depths of samples for analysis
- Spatial coverage of site
- Chemicals analyzed in site samples
- The heterogeneity of chemical concentrations in the site soil

The past investigations focused on specific areas of the site where historic activities may have resulted in impacts to soil and/or groundwater. As a result, the samples were collected from areas where higher concentrations of COPCs were anticipated. Focusing on areas of higher anticipated soil impacts is likely to overestimate the overall health risk.

It is not possible to completely characterize all affected media. Estimates of concentrations in affected media must be based on limited number of samples, literature values, interpolation, and extrapolation. Uncertainty in the assessment due to these factors was minimized; however, the possibility that the sampling results do not completely and thoroughly characterize every COPC in every medium is an uncertainty in the BRA.

7.1.3.2 Uncertainties in Exposure Assumptions

Exposure assumptions are generally a large source of uncertainty. Exposure parameters are selected using a combination of available guidance values and professional judgement. Both sources of information include considerable uncertainty. The exposure assumptions that were used in the BRA are generally conservative. Several exposure parameters (e.g., body weight) are average values; using average values in combination with reasonable maximum exposure (RME) values (e.g., exposure point concentrations (EPCs)) provided an exposure scenario that was considered conservative but still within the possible range. The combinations of exposure assumptions that were used to calculate RME are therefore likely to be conservative. The uncertainty associated with average exposure scenarios is also considered small because the data used to derive these exposure parameters are considered adequate and representative of average exposure conditions.

In estimating EPC, maximum detected concentrations were used when chemicals were detected infrequently and not enough detected concentrations were available to calculate a 95% upper

confidence limit (UCL). The use of maximum detected concentrations for the EPCs, which are intended to represent the arithmetic average of the concentration that is contacted over the exposure period, provides a highly conservative approach to the BRA.

Arsenic was identified as a COC for offsite groundwater; therefore, the uncertainty associated with using total and dissolved metal concentrations in the offsite groundwater data may influence the results of the BRA; however, the significance of the uncertainty is considered low because the samples were collected from developed wells purged prior to sampling.

The BRA conservatively assumed that COC concentrations in groundwater are constant overtime. However, monitoring data for the Facility indicate that natural attenuations is likely occurring (Kennedy/Jenks, 2000), and this may gradually reduce constituent concentrations in groundwater over time. In addition, continuous intentional human consumption of groundwater containing separate phase petroleum is a conservative assumption that would not be likely to occur.

7.1.3.3 Uncertainties in Toxicity Assumptions

Several aspects of the toxicological data employed in human health risks assessments contain a high degree of uncertainty that may result in an overestimate of potential risk. These uncertainties arise from the following two primary areas. First, the toxicity factors used in this assessment, which are established by state and federal policy, are deliberate overestimates of the potential does-response. This means that actual risks are unlikely to be higher than the potential risk estimates calculated in the BRA and are likely to be lower.

Second, the results of animal studies are often used to predict the potential human health effects of a chemical. Extrapolation of toxicological data from animal tests is one of the largest sources of uncertainty. Because of these uncertainties, toxicological data parameters are usually very conservative to be more protective of human health. The conservative aspect was incorporated into the BRA. The uncertainties associated with intraspecies extrapolation are offset by safety factors the EPA uses when estimating toxicity values. The safety factors used by EPA typically range from two to three orders of magnitude (100 to 1,000 times), depending on various aspects of the animal study.

7.1.3.3.1 Petroleum Hydrocarbons

A method of evaluating the toxicity of petroleum hydrocarbons has been developed by Massachusetts Department of Environmental Protection (MADEP) and is based on dividing petroleum hydrocarbons into subgroups of compounds (or distillate fractions) based on the numbers of carbon atoms in the molecules of each subgroup and petroleum hydrocarbon types (MADEP, 2002). A Reference Dose (RfD) is then assigned to represent the toxicity of the entire mixture comprising that subgroup based on a review and/or extrapolation of available toxicological data on hydrocarbons.

Medium-specific concentrations of each subgroup are then assigned the RfD or reference concentration (RfC) for the reference compound (MADEP, 2004) (EPA, 2009b) and used in the standard risk equations.

The MADEP approach provides a method to evaluate risks from exposure to petroleum products that otherwise would be very difficult to evaluate. However, even with the MADEP approach, there is considerable uncertainty in the evaluation of petroleum products. The MADEP approach divides petroleum hydrocarbons into fractions, based on grouping that aliphatic/alicyclic and aromatic hydrocarbons and based on the carbon number/ molecular weights of individual compounds, and then uses a single value to represent the entire fraction. Although the physical, chemical, and toxicological values for different compounds within a single compound in that fraction. The toxicity values assigned to fractions are based on the most toxic compounds within those fractions. It is highly unlikely that the fractions consist entirely of the most toxic compounds within those fractions. Therefore, applying the toxicity value for the most toxic compounds to the entire fraction will overestimate the risks associated with exposure to that fraction.

7.1.3.4 Uncertainties in Risk Characterization

The cumulative effect of the numerous conservative assumptions made during the BRA to address uncertainty results in risk estimates that are likely higher than actual risks that may exist at the Facility.

7.2 Ecological Risk Evaluation

No significant ecological resources have been identified at the Facility during the RI and subsequent field activities. The only possible ecological receptor found in this general area is the Missoula Phlox, listed as a sensitive plant by the United States Forest Service; however, there is no evidence this plant is present at the Facility. Because most of the Facility is an active railyard and vegetation is scarce, there is little suitable habitat for most receptors. Some small mammals may live at and some birds and large mammals may occasionally visit the Facility. The lack of suitable vegetation or surface water at the railyard, coupled with the nature of the onsite activities, make it highly unlikely that mammals or birds will ingest more than negligible amounts of COC-affected soils or water there, or stay in the area long enough to inhale more than negligible amounts of dust-born or vaporized COCs. Therefore, any exposure to chemicals by animals would be limited. Surface water is not present onsite, and offsite impacts to surface water have not been observed. Because there are no significant ecological resources at the Facility, an ecological risk assessment is not warranted (Kennedy/Jenks, 2015).

8.0 Remedial Action Objectives

DEQ has selected Remedial Action Objectives (RAOs) for each contaminated medium. RAOs are general descriptions of what the remediation must accomplish in order to protect public health, safety, and welfare and the environment against unacceptable risk identified in the BRA, FTA, and FS, consistent with reasonably anticipated land use and beneficial use of groundwater. As discussed in Section 7.0, the BRA identified unacceptable risks for onsite future residents for direct contact with surface soils and offsite residents for direct contact with surface soils. SSCLs were not developed for the following populations as calculated cancer and noncancer risk levels are below allowable limits: onsite railyard (commercial/industrial) workers, onsite construction workers, and onsite trespassers. SSCLs were not developed in the BRA for onsite residential exposure due to BNSF's anticipated continued future use of the Facility as a railyard (they were to be calculated if this usage was selected by DEQ); but were developed for offsite residential exposure. In addition, the FTA included SSCLs for soil that are protective of leaching to groundwater. Groundwater SSCLs are the DEQ-7 standards or MCLs; for COCs without a DEQ-7 standard or MCL available, SSCLs were calculated in the BRA. Using the RAOs, DEQ selected remedial alternatives that will achieve protection of public health, safety, and welfare and the environment consistent with reasonably anticipated future land use and beneficial use of groundwater.

RAOs were not developed for ecological receptors because there are relatively few ecological receptors at the BN Missoula Facility, and the cleanup levels protective of human health will also reduce any limited ecological exposure that may occur.

8.1 LNAPL and Groundwater:

The following RAOs are defined for LNAPL and groundwater at BN Missoula Facility:

- Prevent exposure of humans to LNAPL and COCs in groundwater at concentrations greater than SSCLs.
- Meet SSCLs for COCs in groundwater throughout the Facility.
- Reduce the potential for future migration of LNAPL and the contaminated groundwater plume.
- Comply with ERCLs for LNAPL and COCs in groundwater.

8.2 Soil

The following RAOs are defined for soil at the BN Missoula Facility:

- Prevent exposure of humans to COCs in soil at concentrations that exceed SSCLs.

- Prevent migration of COCs from deeper subsurface/smear zone soil to groundwater that would result in exceedances of SSCLs in groundwater.
- Meet SSCLs for COCs in soil.

9.0 Summary of Alternatives

The FS (Arcadis, 2021b) describes the alternatives evaluated to cleanup groundwater, surface, and deep subsurface/smear zone soil at the BN Missoula Facility. These alternatives are summarized and evaluated in the following sections using the remedy selection criteria provided in Section 75-10-721, MCA:

1. **Protectiveness.** Overall protection of human health and the environment addresses whether an alternative provides adequate protection in both the short term and the long term from unacceptable risks posed by hazardous substances, pollutants, and contaminants present at the Facility by eliminating, reducing, or controlling exposure to protective levels. The criterion is a threshold that must be met by the selected alternative or combination of alternatives.
2. **Compliance with ERCLs.** This criterion evaluates whether each alternative will meet applicable or relevant state or federal ERCLs. This criterion is a threshold that must be met by the selected alternative or combination of alternatives unless an ERCL is waived.
3. **Mitigation of Risk.** This criterion evaluates mitigation of exposure risks to public health, safety, and welfare and the environment to acceptable levels.
4. **Effectiveness and Reliability.** Each alternative is evaluated, in the short term and the long term, based on whether acceptable risk levels are maintained, and further releases are prevented.
5. **Practicability and Implementability.** Under this criterion, alternatives are evaluated with respect to whether this technology and approach would be applied at the Facility.
6. **Treatment or Resource Recovery Technologies.** This criterion addresses use of treatment technologies or resource recovery technologies, if practicable, giving due consideration to engineering controls. These technologies are generally preferred to simple disposal options.
7. **Cost Effectiveness.** Cost effectiveness is evaluated through an analysis of incremental costs and incremental risk reduction and other benefits of alternatives considered. This analysis includes taking into account the total anticipated short-term and long-term costs, including operation and maintenance activities.

The first two criteria, protectiveness, and compliance with ERCLs, are threshold criteria that must be met for a remedy to be further considered or selected. The next five criteria are balancing criteria that DEQ evaluates to obtain the best balance in selecting the remedy. These

criteria also consider present and reasonably anticipated future uses of the BN Missoula Facility as well as ICs. In addition to these criteria, DEQ considered the acceptability of the preferred alternative to the affected community, as indicated by community members and local government during the public comment period on the Proposed Plan.

The cost estimates assume that the alternatives will meet the estimated cleanup timeframes (as identified in the individual alternative discussions) and these are preliminary estimates only. They are used to ensure that the costs of each alternative are compared and evaluated based upon consistent information. Actual costs and cleanup timeframes may vary, and cost estimates will be further refined during remedial design.

The FS organized remedial actions as follows: LNAPL collection and treatment, groundwater alternatives, and surface and subsurface soil remedies. Considering general remedial alternatives and associated technologies and processes, remedial alternatives and technologies that could reasonably be expected to work at the Facility were identified and evaluated. Initial screening of these alternatives in the FS resulted in further evaluation of twelve alternatives for LNAPL, groundwater, and soils. The following alternatives were retained for further evaluation and comparative analysis:

- Alternative 1 – No Further Action
- Alternative 2 – Bioventing
- Alternative 3 – Natural Source Zone Depletion (NSZD)
- Alternative 4 – Bioslurping/Enhanced Fluid Recovery (EFR) and/or Vacuum-Enhanced Dual-Phase Extraction (VEDPE)
- Alternative 5 – Passive and/or Active Skimming.
- Alternative 6 – Monitored Natural Attenuation (MNA)
- Alternative 7 – In Situ Bioremediation
- Alternative 8 – Air Sparging (AS)/Soil Vapor Extraction (SVE)
- Alternative 9 – In Situ Chemical Oxidation (ISCO)
- Alternative 10 – Soil Containment
- Alternative 11 – Soil Excavation and Offsite Disposal
- Alternative 12 – Soil Excavation, Ex Situ Treatment, and Backfill

The only media with contamination posing unacceptable risks are groundwater and deep subsurface/smear zone soil and onsite surface soil for residential use. No specific alternatives were evaluated for surface water because significant bodies of surface water are not present within the Facility boundaries. No alternatives were evaluated for soil vapor as previous VI investigation have concluded that VI does not pose unacceptable risk at the Facility and

remediation of contaminated soil and groundwater from the Facility will also address any vapor-phase contamination.

9.1 Components of Alternatives

All remedial alternatives, except No Action, have common elements. These common elements are described here and are not repeated in the description of alternatives that follow. These elements include ICs, engineering controls, and groundwater monitoring. The total present worth cost for implementing the common elements at the Facility is \$851,000. Cost estimations for individual alternatives are taken directly from the FS (Arcadis, 2021b). Since the site-wide elements are common to all remedial actions, the cost of site-wide elements will be added to the cost of each selected alternative or group of alternatives when estimating the total cost of cleanup. The following assumptions are provided for the common elements.

Institutional controls. ICs are defined in Section 75-10-701(11), MCA as a restriction on the use of real property that mitigates the risk posed to public health, safety, and welfare and the environment. Although ICs do not remediate the contamination, they can be effective for managing human exposure to contaminants and are further described in Section 75-10-727, MCA. The effectiveness of ICs depends on the mechanisms used and the durability of the IC. They may be layered to improve effectiveness. ICs are considered easy to implement and inexpensive to implement and maintain, although long-term enforcement may increase costs. Specific ICs that may be used at the Facility are generally discussed below.

Land Use Controls: As described above, DEQ has identified that the reasonably anticipated future use of the onsite portion of the Facility is commercial/industrial. ICs, such as restrictive covenants and/or zoning, could be used to prohibit or limit future residential use.

Groundwater Use Restrictions: ICs can be used to limit groundwater use at the Facility until SSCLs are met, if needed, or to limit property use during the time of active remediation or to otherwise protect the integrity of the remedy. DEQ is also aware that the Missoula Valley Water Quality District (MVWQD) implemented an ordinance, codified as Chapter 13.26 of the Missoula Municipal Code (MVWQD, 2008), that restricts the construction and operation of new water supply wells in the vicinity of the Facility. Specifically, the provisions of Section 13.26.090, which prohibit the installation of new private drinking water supply wells and new community and non-community non-transient water system wells within 1,000 feet of any release to groundwater reported to a state agency or within 250 feet of a railroad track, makes the installation of a new drinking water supply well in an area of the Facility where affected groundwater is present unlikely. While the MVWQD may prohibit the installation of new drinking water wells in the area of the Facility, this does not provide fully reliable protection against exposure to impacted groundwater. There is no permitting system in existence that requires well installation be approved by any authority, and private irrigation wells are

allowed under the ordinance, which could potentially be converted (illegally) to provide drinking water. Furthermore, Section 13.26.090(A)(4) of the ordinance states “The siting requirements of subsections 13.26.090(A)(2) shall not be considered by any state or federal agency to provide an institutional control which would protect public health from contaminants at a site described in subsections 13.26.090(A)(2)(a-d) in order to justify a decision not to clean up the contamination at such sites” DEQ has considered the existence of this local regulation as it may help ensure the effectiveness of any ICs in terms of the durability and layering discussed above but is not relying on this ordinance as part of the remedy. DEQ will require an additional groundwater use restriction, such as restrictive covenants or a controlled groundwater area (or both), to limit groundwater use until it meets SSCLs. (A controlled groundwater prevents or limits groundwater use. The Montana Department of Natural Resources and Conservation administers those areas under Sections 85-2-501, et seq., MCA). However, as the ordinance states, it is not intended as a substitute for ICs, nor does it provide any independent permitting system. Thus, the ordinance should be seen as a supplement to ICs.

Engineering Controls. Engineering controls are measures that help manage environmental and health risks by reducing exposure to contamination levels or limiting exposure pathways. Engineering controls encompass a variety of engineered remedies such as fencing to contain and/or reduce exposure to contamination and/or physical barriers intended to limit access to property. Although engineering controls do not remediate the contamination at the BN Missoula Facility, they can be effective for managing exposure to contaminants. The effectiveness of engineering controls depends on the mechanisms used and the durability of the engineering control. The initial cost of some engineering controls can be high, and generally engineering controls require some long-term maintenance. Examples of engineering controls that may be used at the BN Missoula Facility include fencing, signage, and other security measures. One such measure, property perimeter fencing, is currently present onsite at the Facility.

Long-Term Groundwater Monitoring. Monitoring is a common element to all remedial alternatives except No Action. However, the monitoring requirements may vary for each remedial alternative. The general objective of monitoring is to evaluate the effectiveness of the remedy, determine when SSCLs are achieved, and ensure the ongoing protection of public health, safety, and welfare and of the environment.

Long-term monitoring has two key components: long-term monitoring and performance monitoring. Long-term monitoring is independent of remedial alternatives and is used to evaluate the nature and extent of the groundwater plume. Performance monitoring is specific to individual remedial alternatives and is used to evaluate the effectiveness of the remedy. Details of the required long-term monitoring will be developed after the ROD is issued.

9.1.1 Alternative 1 – No Further Action

DEQ requires that all other options be compared against the baseline no action alternative. No further cleanup is considered under this alternative. Contamination would remain at the Facility and would continue to affect groundwater and pose unacceptable risk for onsite residential exposure. No additional LNAPL or other contamination would be removed other than by natural processes. No ICs would be implemented to prohibit residential land use and/or groundwater use, no groundwater monitoring would be conducted, and no engineering controls would be put in place. Alternative 1 is not protective of human health and the environment in the short-term or long-term. Deep subsurface soil contamination would remain that serves as a groundwater pollution source, COCs in groundwater would remain at levels that pose unacceptable risk to human health, and COCs in onsite surface soils would remain at levels that are unacceptable for residential use. Therefore, Alternative 1 does not comply with ERCLs. Unacceptable risks would remain and would not be mitigated. This alternative would not be effective and reliable in the short-term and long-term because unacceptable levels of contamination, and therefore, risk would remain. Alternative 1 is easily implemented but does not use treatment or resource recovery technologies. The total present worth cost for implementing no further action at the Facility is \$0.

9.1.2 Alternative 2 – Bioventing

Bioventing stimulates the natural in situ biodegradation of aerobically degradable compounds in soil by providing oxygen to existing soil microorganisms. In general, oxygen is supplied through direct injection of air into impacted soil; oxygen may also be supplied through balanced extraction and injection. In addition, volatile compounds are biodegraded as vapors move slowly through biologically active soil. Bioventing is currently being implemented as an interim action in the regional aquifer in the WFA and EFA. The bioventing alternative for the BN Missoula Facility includes both injection and extraction from existing bioventing systems/wells in the EFA and WFA (regional aquifer), addition of new wells in the regional aquifer (to tie into both EFA and WFA existing systems), and a new bioventing system for the WFA perched zone to provide greater influence across the historical extent of LNAPL and dissolved petroleum contamination in groundwater. Bioventing is effective for LNAPL and petroleum hydrocarbons in groundwater. In addition, within its zone of influence, bioventing will remediate residential petroleum hydrocarbons in the deep subsurface/smear zone soils, which contribute to groundwater impacts. This alternative is not protective on its own nor in the immediate, short-term and would need to be combined with other technologies to address metals groundwater contamination and deep subsurface/smear zone soil impacts outside of the zone of influence of the bioventing system, and onsite surface soil contamination. Bioventing will require an estimated 22 years to achieve compliance with ERCLs and requires combination with other alternatives to ultimately meet ERCLs for all contamination. This technology will eventually mitigate risk associated with

LNAPL and petroleum hydrocarbons in groundwater and deep subsurface/smear zone soils, but will not mitigate risk from metals in groundwater, or onsite surface soil contamination exceeding residential screening levels. Bioventing is effective and reliable for LNAPL and petroleum hydrocarbon remediation in groundwater and deep subsurface/smear zone soils, but not for metals in groundwater, or onsite surface soil contamination. The bioventing alternative is practicable and implementable and would consist of additions to the existing operating bioventing systems targeting the regional aquifer in both the WFA and EFA, as well as a new system targeting the perched zone. Bioventing is a treatment technology and has a total present worth cost of \$2,021,000.

9.1.3 Alternative 3 – Natural Source Zone Depletion (NSZD)

NSZD is the reduction of LNAPL mass and petroleum hydrocarbon concentration through naturally occurring volatilization in the unsaturated zone, aqueous dissolution in the saturated zone, and biodegradation in the vadose and saturated zones. NSZD is an LNAPL remedial technology for the WFA perched zone and the WFA and EFA regional aquifer, and usually depletes more mass in the vadose zone than in the saturated zone. As discussed in detail in the FS, existing natural attenuation field and laboratory analytical data are available for the WFA and EFA regional aquifer to support the saturated zone component of the NSZD evaluation although there is some uncertainty in the attenuation rate estimate developed that will have to be verified if this alternate is selected as part of the final remedy.

NSZD is not protective in the short-term as it will take as many as 30 years to comply with ERCLs in the case of LNAPL and groundwater contamination. Additionally, NSZD does not address deep subsurface/smear zone soil impacts or onsite surface soil contamination. This alternative will eventually meet ERCLs for LNAPL and groundwater. NSZD eventually mitigates the risk associated with residual LNAPL and petroleum impacted groundwater but does not mitigate risk associated with impacted deep subsurface/smear zone soils or onsite surface soil contamination. Based on evaluation of previous data (Arcadis, 2021b), it appears this alternative will be effective and reliable over time for remediating the residual LNAPL and petroleum impacted groundwater. NSZD is technically and administratively practicable and relatively easily implemented. NSZD does not utilize treatment or resource recovery technology and the estimated total present worth of this alternative at the facility is \$329,000.

9.1.4 Alternative 4 – Bioslurping/Enhanced Fluid Recovery (EFR) and/or Vacuum-Enhanced Dual-Phase Extraction (VEDPE)

Bioslurping, EFR, and VEDPE use vacuum-enhanced pumping to remove various combinations of contaminated groundwater, separate-phase petroleum product, and hydrocarbon vapor from the subsurface in the WFA regional aquifer and perched zone (rates of recovery for LNAPL in EFA are likely less than the practical limits of the technology). This technology does not address impacted groundwater or LNAPL in the EFA, deep subsurface/smear zone soils, or onsite

surface soil contamination and is therefore not protective on its own. This technology will eventually meet ERCLs for LNAPL and petroleum-contaminated groundwater in the WFA within an estimated 11-year operating period but will not address LNAPL or groundwater in the EFA, metals-contaminated groundwater or onsite surface soil contamination. The technology will mitigate the risk associated with LNAPL and petroleum impacted groundwater in a portion of the facility, but will not reduce the risk associated with contamination groundwater elsewhere at the Facility, deep subsurface/smear zone soil contamination, metals in groundwater, or onsite surface soil contamination. This alternative is effective and reliable for removal of LNAPL and petroleum-contaminated groundwater, but it does not effectively address all contaminated groundwater and LNAPL, deep subsurface/smear zone soils, metals-contaminated groundwater, or onsite surface soil contamination. This technology is implementable but is likely not practicable given the limited thickness of remaining LNAPL and demonstrated transmissivity rates. Bioslurping is a treatment technology and has an estimated a total present worth cost of \$2,949,000.

9.1.5 Alternative 5 – Passive and/or Active Skimming

Passive skimming (e.g., absorbent socks) and/or active skimming (e.g., belt skimmers) technologies capture and remove LNAPL from the surface of water, typically under ambient conditions though some active skimming may use pumps to recover LNAPL. This technology may eventually reduce the remaining LNAPL and source of the dissolved petroleum hydrocarbons in groundwater. It is estimated that five years of skimming would be necessary to comply with ERCLs for LNAPL. This technology does not address contaminated groundwater (petroleum or metals), deep subsurface/smear zone soils, or onsite surface soil contamination and will therefore not be protective, comply with ERCLs, nor will it mitigate the risk associated with these contaminated media. Skimming is effective and reliable for removing LNAPL near wells; but may not be effective for inter-well locations and will not be effective for contaminated groundwater, deep subsurface/smear zone soils, or onsite surface soil contamination. Skimming, particularly passively through use of absorbent socks, is fairly easily implementable; however, existing recovery and transmissivity data indicate skimming may not be practicable as the technology may not be able to access all residual petroleum hydrocarbon contamination. This treatment technology does allow for recovery of LNAPL and is estimated to have a total net present worth of \$236,000.

9.1.6 Alternative 6 – Monitored Natural Attenuation (MNA)

MNA is the reduction of contaminant concentration in environmental media through naturally occurring processes like biodegradation, sorption, etc., and was evaluated as an alternative for groundwater in conjunction with source removal by a different/prior alternative or action. MNA may address both petroleum and metals contamination in groundwater (breakdown of petroleum will remove reducing conditions that mobilize metals) over the long-term – an estimated 30

years; however, it is not protective in the short-term from any Facility contaminants and does not address LNAPL, contaminated deep subsurface/smear zone soil, or onsite surface soil contamination. Therefore, MNA will need to be implemented in combination with other alternatives to meet protectiveness, ERCLs, and mitigation of risk criteria. MNA is not effective or reliable in the short-term for remediation of any Facility contaminants because LNAPL is not addressed and natural attenuation processes are relatively slow to degrade petroleum-impacted groundwater. MNA is not effective or reliable for onsite surface soil contamination. MNA is relatively easily implemented and uses naturally occurring processes to degrade the remaining contaminated groundwater. The total present worth cost for implementing MNA at the Facility is \$330,000.

9.1.7 Alternative 7 – In Situ Bioremediation

In situ bioremediation includes the injection of nutrients, electron acceptors (e.g., oxygen, nitrates, and sulfates), cultured microorganisms, surfactants, or other amendments into newly installed injection well networks in the WFA perched zone and the WFA and EFA regional aquifer to enhance biodegradation rates of petroleum hydrocarbons within the saturated zone and unsaturated zone (i.e., smear zone). On its own, this alternative is not protective in the short or long-term, does not meet ERCLs, and does not mitigate risk as it would only reduce petroleum concentrations in groundwater but does not address LNAPL (a continuing source to groundwater), deep subsurface/smear zone soil contamination, or onsite surface soil contamination. This alternative is effective and reliable for petroleum-contaminated groundwater, but is not effective or reliable for LNAPL, metals-contaminated groundwater, deep subsurface/smear zone soils, or onsite surface soil contamination. This alternative is practicable and implementable where not prohibited by surface infrastructure like existing structures and is expected to require annual injections for six years. In situ bioremediation utilizes a treatment technology. The total present worth cost for implementing this alternative is \$1,766,000.

9.1.8 Alternative 8 – Air Sparging (AS)/Soil Vapor Extraction (SVE)

AS involves injecting air into the ground below the water table with the goal of moving contaminated vapors into the vadose zone. SVE then pulls those vapors from the subsurface by applying a vacuum to extraction wells. This alternative would include installation of new AS and SVE wells in the WFA and EFA regional aquifer to remediate soil and groundwater petroleum impacts by stripping lighter organic compounds and enhancing aerobic biodegradation in the WFA and EFA regional aquifer. This alternative may address LNAPL and petroleum groundwater contamination but will not address deep subsurface/smear zone soil contamination, metals-contaminated groundwater, or onsite surface soil contamination and is therefore not protective unless combined with other alternatives. AS/SVE is estimated to require 11 years to meet ERCLs for LNAPL and petroleum groundwater contamination; however, it will not meet ERCLs, will not eliminate risk, and will not be effective for metals groundwater contamination,

deep subsurface/smear zone soils, or onsite surface soil contamination. This alternative is practicable and implementable and is a treatment technology. The total present worth cost for AS/SVE is \$2,318,000.

9.1.9 Alternative 9 – In Situ Chemical Oxidation (ISCO)

ISCO involves the injection of a chemical oxidant into the subsurface to treat impacted groundwater and smear zone soils in the WFA perched zone and WFA and EFA regional aquifer using newly installed injection wells. ISCO can be injected ISCO has the potential to remediate petroleum hydrocarbons in groundwater and residual LNAPL if applied at sufficient, and potentially high, volumes. ISCO is estimated to require semiannual injections for three years at the Facility. This alternative does not mitigate risk associated with impacted deep subsurface soils (not in smear zone) or onsite surface soil contamination on its own, and depending on the oxidant selected, may generate secondary water quality issues that will have to be mitigated/evaluated. ISCO may have difficulty contacting the impact zone(s) due to soil heterogeneity and/or large seasonal fluctuations in the groundwater table. ISCO can be effective for addressing residual LNAPL in the smear zone (preferably during high water conditions) and petroleum hydrocarbons in groundwater, though it may require significant injection volume and effort, and will not address metals contaminated groundwater or seep subsurface soils not considered to be within the smear zone. ISCO is implementable and may be practicable for some contaminants at the Facility where not prohibited by surface infrastructure. This treatment technology is estimated to have a total present worth cost of \$6,924,000.

9.1.10 Alternative 10 – Soil Containment (Horizontal Barrier)

A horizontal barrier would consist of a protective cap of clean imported fill, asphalt, or concrete that is constructed over impacted soil, preventing direct human contact with contaminated media. This alternative does not address residual LNAPL nor contaminated groundwater at the Facility and is therefore not protective without combination with other alternatives. Due its failure to address LNAPL and groundwater contamination, a horizontal barrier does not comply with ERCLs, does not mitigate all risks, and is not effective/reliable without combination with other alternatives. A soil containment barrier is implementable and may be practicable in certain locations at the Facility to address onsite surface soil contamination. A horizontal barrier could be relatively quickly constructed but would require long-term inspection and maintenance in perpetuity to ensure the integrity of the barrier. This alternative does not use treatment or recovery technology and its total net present worth cost is estimated at \$3,704,000 using asphalt as the cap material.

9.1.11 Alternative 11 – Soil Excavation and Offsite Disposal

This alternative would involve excavating contaminated soil to a depth of two feet (the general limits of surface soil) in areas with concentrations posing unacceptable risk to future onsite residential use. Under this alternative, excavated soil would be transported to a licensed solid waste facility as nonhazardous waste. This alternative would remove all soils with concentrations greater than residential screening levels to the two-foot depth level but would not address LNAPL or groundwater impacts and would therefore not be protective, would not meet ERCLs, would not mitigate all risks, neither be effective nor reliable without combination with other alternatives. This alternative is implementable and practicable where not precluded by surface infrastructure, including existing buildings and the track itself. Excavation and offsite disposal, as an alternative, does not use treatment or resource recovery technology. The total net present worth cost is estimated at \$15,456,000.

9.1.12 Alternative 12 – Soil Excavation, Ex Situ Treatment, and Backfill

This alternative includes the same excavation component as Alternative 11; however, the excavated soil would then be moved to another area of the railyard for treatment with biological and/or other amendment, and then backfilled into excavated areas following confirmation sampling to confirm successful treatment. This alternative would remediate all soils with concentrations greater than residential screening levels to the two-foot depth level but would not address LNAPL or groundwater impacts and would therefore not be protective, would not meet ERCLs, would not mitigate all risks, and neither be effective nor reliable without combination with other alternatives. This alternative is implementable and practicable where not precluded by surface infrastructure like existing buildings and tracks. This alternative would include treatment of contaminated soils and the total net present worth cost is estimated at \$19,006,000.

9.2 Shared and Distinguishing Features

9.2.1 ERCLs

None of the alternatives are expected to meet all applicable or relevant federal and state ERCLs individually. However, various combinations of the alternatives will comply with all ERCLs. Appendix A contains the complete list of ERCLs identified for the BN Missoula Facility.

9.2.2 Long- Term Reliability of Remedy

All technology options being considered in the alternatives are considered reliable over the long term but each depends upon proper design, implementation, and maintenance.

9.2.3 Estimated Time for Design and Construction

All components within each alternative could be designed within one year or less and could be constructed within two years or less.

9.2.4 Estimated Time to Reach Cleanup Levels

Cleanup levels will not be met in the short-term or long-term for either groundwater, LNAPL, or deep subsurface/smear zone soil under any alternatives individually. However, in combination, as noted and addressed in the selected remedy below, it is possible to meet cleanup levels for groundwater, LNAPL, and residual contamination in deep subsurface/smear zone soil in the long term at the BN Missoula Facility. Please see section 11.2, which is the discussion of the selected remedy, for specifics on timeframes for cleanup.

9.2.5 Cost

The cost estimate for each alternative is based on estimates of capital costs as well as operation and maintenance costs. These are initial cost estimates only and are subject to further refinement once remedial design is complete. Section 9.1 identified the estimated costs associated with each alternative. Section 10.7 details the comparison of alternative costs.

9.2.6 Use of Presumptive Remedies

A presumptive remedy is a technology that EPA has determined, based on its experience, generally will be the most appropriate remedy for a specified type of site. EPA establishes presumptive remedies to accelerate site-specific analysis of remedies by focusing feasibility study efforts (EPA, 1993b). Although BN Missoula is not a CERCLA site, DEQ considered the presumptive remedy guidance as part of the alternatives analysis.

Multi-phase extraction is a presumptive remedy for volatile organics in soil and groundwater and is a component of alternative 4 (EPA, 1997). Soil vapor extraction is a presumptive remedy for volatile organics in soil and is a component of alternative 8 (EPA, 1993c). Containment is a presumptive remedy for metals in soil and is included as alternative 10 (EPA, 1999). All other alternatives do not include a presumptive remedy.

9.3 Expected Outcomes

The preferred remedy would remove LNAPL from the groundwater and deep subsurface/smear zone soil, as well as address groundwater contamination using a combination of bioventing, NSZD, and MNA. ICs in the form of restrictive covenants limiting the future use of the railyard to commercial/industrial uses are a site-wide element of the preferred remedy. A restrictive covenant that would prohibit the use of groundwater until SSCLs are met is also part of the preferred remedy. The remedy also includes long-term groundwater monitoring to confirm the effectiveness of the remedial actions.

The preferred remedy was selected over other alternatives because it is expected to achieve substantial and long-term risk reduction through elimination of the source of groundwater contamination (LNAPL) and removal of contaminants from the regional aquifer and perched zone and includes measures to prevent future exposures to currently contaminated groundwater. The preferred remedy also allows the onsite property to continue to be used for the reasonably anticipated future land use, which is commercial/industrial, with minimal disturbance to existing operations. The preferred remedy reduces the unacceptable risk within a reasonable timeframe, is anticipated to be as or more effective than other alternatives despite costing less and is expected to be reliable in the long-term.

Based on the information available at this time, the preferred remedy is protective of public health, safety, and welfare and the environment, would comply with ERCLs, would mitigate risk, would be effective in the short- and long-term, is practicable and implementable, uses treatment technology, and is cost-effective. Because it would treat the source materials, the remedy also would meet the statutory preference for the selection of a remedy that involves treatment as a principle element.

10.0 Comparative Analysis of Alternatives

The alternatives were evaluated and compared against the seven cleanup criteria identified in Section 75-10-721, MCA and a summary of this analysis is depicted in Table 3. Protectiveness and compliance with ERCLs are threshold criteria that must be met for any remedy to be further considered or selected. In the comparative analysis, the remaining criteria are evaluated to select the best overall alternatives for each media. This evaluation includes considerations of present and reasonably anticipated future uses of the Facility and the use of ICs. Each criterion is listed individually below. A list of the alternatives and their corresponding numbers is also provided to aid in this analysis.

- Alternative 1 – No Further Action
- Alternative 2 – Bioventing
- Alternative 3 – NSZD
- Alternative 4 – EFR and/or VEDPE

- Alternative 5 – Passive and/or Active Skimming
- Alternative 6 – MNA
- Alternative 7 – In Situ Bioremediation
- Alternative 8 – AS/SVE
- Alternative 9 – ISCO
- Alternative 10 – Soil Containment
- Alternative 11 – Soil Excavation and Offsite Disposal
- Alternative 12 – Soil Excavation, Ex Situ Treatment, and Backfill

None of these alternatives alone can be used to remediate the entire Facility. Some of the remedial alternatives listed above are specific to affected media or contaminants such as groundwater, deep subsurface/smear zone soil, LNAPL, or onsite surface soil contamination. No alternatives will directly address arsenic contamination in groundwater; however, it is anticipated that alternatives or combinations of alternatives that are able to remediate petroleum hydrocarbons in groundwater will address the temporary and localized increases in groundwater concentrations of naturally occurring arsenic mobilized through microbial activity that is stimulated by the presence of petroleum hydrocarbons. Therefore, the selected remedy will address arsenic in the long-term while remediating the other COCs.

Alternative 1 – No Action, while technically practicable, implementable, and cost effective in the sense that it has no cost of implementation, is not protective, does not comply with ERCLs, does not mitigate risk, is neither effective nor reliable, and does not use treatment or resource recovery technology. Therefore, Alternative 1 – No Action is not an acceptable remedy. Alternatives 10-12 were evaluated in the FS for their ability to alleviate unacceptable risk associated with direct human contact with surface soil (0-2 feet depth) in a residential use scenario. DEQ has identified that reasonably anticipated future land use onsite at the Facility does not include residential use and there are no contaminant concentrations exceeding SSCLs in offsite surface soil. In addition, there is no unacceptable risk posed by onsite subsurface soil contamination for commercial/industrial worker or construction worker exposure. The only remaining unacceptable risk posed by soil contamination is in deep subsurface/smear zone soil where residual petroleum hydrocarbons, generally in the form of LNAPL, continue to act as a source for groundwater contamination, and for onsite surface soil contamination under a residential use scenario. However, DEQ has identified the onsite reasonably anticipated future use as commercial/industrial, as discussed above in Section 6, and residential use will be prohibited through the use of an IC (common element). Therefore, Alternatives 10-12 are not included in the comparative analysis.

10.1 Protectiveness

The criterion requiring overall protection of public health, safety, and welfare and the environment addresses whether an alternative provides adequate short-term and long-term protection from unacceptable risks. Protection may be achieved by eliminating, reducing, or controlling exposure to unacceptable levels of hazardous or deleterious substances present at the BN Missoula Facility. None of the alternative alone provides adequate protection of public health, safety, and welfare and the environment over the short or long-term as the public could be exposed to unacceptable concentrations of and exposures to COCs, and the onsite residual source would continue to contribute contamination to the groundwater. Alternatives can be combined to ensure protectiveness.

Alternative 1 is not protective. Alternatives 2, 3, 8, and 9 will address smear zone petroleum hydrocarbons, LNAPL, and groundwater contamination; alternatives 8 and 9 will likely function more quickly (11 and 5 years, respectively) than alternatives 2 and 3 (22 and 30 years, respectively). Alone, alternatives 4 and 5 will achieve protectiveness for LNAPL only and will not result in protection from other contaminants at the Facility. Alternatives 6 and 7 will be protective of groundwater contamination risks but will not address risks caused by residual smear zone petroleum hydrocarbons or LNAPL continuing to be a source of groundwater contamination. Alternative 6 may take 30 years to reduce groundwater contaminants to protective levels and alternative 7 is estimated to take 5 years.

10.2 Compliance with ERCLs

This criterion evaluates whether each alternative will meet applicable or relevant state and federal ERCLs identified for the BN Missoula Facility. None of the alternatives attains ERCLs individually. However, these alternatives can be combined to achieve compliance with ERCLs. Alternative 1 does not comply with ERCLs. Alternatives 2, 3, 8, and 9 will be expected to comply with ERCLs as they pertain to LNAPL and groundwater, with alternatives 8 and 9 likely achieving ERCLs compliance more quickly than alternatives 2 or 3. Alternatives 4 and 5 will not comply with ERCLs on their own as they will not address contamination in groundwater and may not address source contamination in the smear zone. Alternatives 6 and 7 will not comply with ERCLs on their own because they will not address source residual petroleum hydrocarbons and LNAPL.

10.3 Mitigation of Risk

This criterion evaluates mitigation of exposure to risks to public health, safety, and welfare and the environment to acceptable levels. None of the active alternatives mitigate all of the identified risks. However, combining remedies will result in mitigating risk.

Alternative 1 does not mitigate risk. Alternatives 2, 3, 8, and 9 will mitigate risk associated with remaining source and groundwater contamination with alternatives 8 and 9 likely mitigating risk more quickly than alternatives 2 and 3. Alternatives 4 and 5 will not mitigate risk associated with groundwater contamination and residual smear zone petroleum hydrocarbons and LNAPL. Alternatives 6 and 7 will not mitigate risk on their own because although they can mitigate risk from contaminated groundwater, they will not address remaining sources of that contamination.

10.4 Effectiveness and Reliability

Each alternative is evaluated, in the short-term and the long-term, based on whether acceptable risk levels are maintained, and further releases are prevented. None of the alternative alone are effective and reliable at addressing the contained media that exceeds SSCLs across the Facility but are effective and reliable on particular areas or media. When multiple alternatives are implemented together, the combined result is effective and reliable across the Facility.

Alternative 1 is neither effective nor reliable as it does nothing to treat or remove contamination causing unacceptable risk to human health or the environment. Alternatives 2, 3, and 9 are expected to be effective and reliable for remediation of residual petroleum hydrocarbons in the smear zone, LNAPL, and groundwater contamination; however, alternative 3 is anticipated to need a longer time period. Alternative 4 will be effective and reliable at addressing volatile components of remaining smear zone residual petroleum hydrocarbons, LNAPL, and associated petroleum groundwater contamination, but may have reduced effectiveness in low permeability soils and will not efficiently remediate nonvolatile petroleum contamination or metals in groundwater. Alternative 5 is not effective for any COCs other than LNAPL for which effectiveness may be limited due to lack of soil transmissivity. Alternative 6 is not effective in the short-term due to the long duration of natural attenuation processes but will be effective and reliable for groundwater contamination given enough time. Alternative 7 is effective and reliable for petroleum hydrocarbon contamination in groundwater and the smear zone but is not effective for LNAPL. Alternative 8 can be effective and reliable for LNAPL and petroleum hydrocarbon groundwater contamination; however, this alternative may be less effective at the Facility due to the large seasonal groundwater level change and potentially low permeability in the regional aquifer.

10.5 Practicability and Implementability

Under this criterion, alternatives are evaluated with respect to whether this technology and approach could be applied at the BN Missoula Facility. These technologies are generally preferred to simple disposal options (see Section 75-10-721(2)(c)(iv), MCA).

Alternatives 1, 2, 3, 6, and 8 are practicable and implementable. Alternatives 4 and 5 are implementable but may not be practicable given the low transmissivity of the remaining LNAPL. Alternatives 7 and 9 are practicable and implementable where not prohibited by surface and/or subsurface infrastructure.

10.6 Treatment or Resource Recovery Technologies

This criterion addresses use of treatment technologies or resource recovery technologies, if practicable, giving due consideration to engineering controls. These technologies are generally preferred to simple disposal options (see Section 75-10-721(2)(c)(iv), MCA).

This criterion addresses use of treatment technologies or resource recovery technologies, if practicable, giving due consideration to engineering controls.

Alternatives 1, 3, and 6 do not use treatment or resource recovery technologies. Alternatives 2, 4, 7, 8, and 9 are treatment technologies. Alternative 5 is a resource recovery technology.

10.7 Cost Effectiveness

Under Section 75-10-721, MCA, cost-effectiveness is determined through an analysis of incremental costs and incremental risk reduction, and other benefits of alternatives considered, taking into account the total anticipated short-term and long-term costs of remedial action alternatives considered, including the total anticipated cost of operation and maintenance activities. Costs are estimated, and actual costs may vary. Cost estimates will be refined once DEQ issues the ROD and remedial design is completed. Alternative 1 has no associated cost but provides no risk reduction or contaminant remediation and will not be compared further for cost. Alternative 2 is more costly than Alternative 7 and less costly than Alternative 8; however, Alternative 2 will address LNAPL, petroleum-contaminated groundwater, and deep subsurface/smear zone soils while Alternative 7 will only address petroleum-contaminated groundwater, and Alternative 8 will only address LNAPL and petroleum-contaminated groundwater. Alternatives 3 and 6 have similar costs and both will take a long time to reduce risk and comply with ERCLs given their reliance on natural processes to degrade petroleum contamination; Alternative 6 relies on a separate alternative to remove source contamination. Alternative 4 is the second most costly alternative and will address LNAPL and petroleum-contaminated groundwater, but not deep subsurface/smear zone soils. Alternative 5 is the least costly alternative, but only addresses LNAPL and may have limited effectiveness. Alternative 9 is the most expensive alternative, may not address all deep subsurface soils (not in the smear zone), may be more difficult to implement, and may result in secondary water quality impacts.

11.0 Selected Remedy

11.1 Summary of the Rationale for the Selected Remedy

DEQ's selected remedy for the BN Missoula Facility is a combination of alternatives set forth below.

- Bioventing (Alternative 2)(Figure 13a and Figure 13b): The selected remedy will remove remaining LNAPL in the Facility subsurface, including impacted deep subsurface/smear zone soils, and address petroleum groundwater contamination exceeding SSCLs.
- Natural Source Zone Depletion (Alternative 3)(Figure 14): The selected remedy will address remaining residual acting as a source of groundwater contamination and can continue remediation of LNAPL if bioventing reaches a point of limited efficiency.
- Monitored Natural Attenuation (alternative 6) (Figure 15): This component of the remedy will allow for the confirmation of long-term recovery of groundwater including the reduction of metals contamination in groundwater that is expected to occur once the petroleum contamination is degraded.
- Site-Wide Elements:
 - ICs: The selected remedy partially relies on the placement of DEQ-approved restrictive covenants on the onsite property owned by BNSF in substantially the same form as included in Appendix B to limit the future use of the property to commercial/industrial and to prohibit use of the groundwater. This covenant will be in place until SSCLs are met.
 - Long-term Groundwater Monitoring: Performance monitoring of groundwater will be required to evaluate the effectiveness of the selected alternatives. The monitoring program may include sampling any monitoring wells in the existing network, as well as any new wells that may be installed, to evaluate the effectiveness of the selected remedy.

Costs and assumptions used in calculating the total present value of the selected remedy are carried forward from the FS (Arcadis, 2021b) and are discussed in Section 11.3; complete copies of the cost estimates are provided in Appendix C. These are estimates only and are subject to change during remedial design and implementation. The cost estimates are based on the assumption that the alternative will meet the estimated cleanup timeframes (as identified in the individual alternative discussion) and that these are preliminary cost estimates only. They used to ensure that the costs of each alternative are compared and evaluated based upon consistent information. Actual costs and cleanup timeframes may vary, and cost estimates will be further refined during remedial design.

As described in Section 2.4, various interim remedial actions were conducted at the BN Missoula Facility from 1985 to present day. Those interim remedial actions helped reduce the threat to public health, safety, and welfare and the environment and contributed to the selected remedy because they reduced concentrations of COCs in the groundwater and soils, and direct contact risks to human and wildlife. Many of those interim remedial actions resulted in removal of hazardous or deleterious substances from the BN Missoula Facility (such as free product recovery and diesel fuel contaminated soils removal). These recovery and removal interim remedial actions are consistent with the final remedy. One of the interim remedial actions, bioventing, resulted in features that are still present at the BN Missoula Facility.

In 1995, BNSF conducted a 6-month bioventing test program to determine the potential effectiveness of the treatment (Kennedy/Jenks, 1996). Due to the success of the test program, the bioventing system has continued to be operated in both the EFA and WFA to the present day with upgrades and expansions. Groundwater monitoring has been conducted since 1987 and over this time has indicated decreases in contaminants over time. LNAPL thickness continues to decrease on the Facility with an expectation following the December 2016 diesel fuel release in the perched zone increasing LNAPL, but has returned to a decreasing rate (Arcadis, 2020a).

DEQ evaluated the bioventing interim remedial action using the criteria found in § 75-10-721, MCA, to determine whether the interim remedial action is consistent with the final remedy:

Protectiveness: Bioventing has been functioning as designed and is contributing to protectiveness of public health, safety, and welfare and of the environment.

Compliance with ERCLs: As noted above, bioventing alone will not achieve compliance with ERCLs, and will have to be combined with other remedies to achieve compliance with ERCLs.

Mitigation of Risk: By removing LNAPL and reducing contamination in groundwater and deep subsurface/smear zone soils, bioventing has assisted in mitigating risk to public health, safety, and welfare and of the environment.

Effectiveness and Reliability: Having been in place since 1995, with no signs of instability or operational problems, bioventing has demonstrated it is effective and reliable in the short-term and is expected to remain effective and reliant in the long-term.

Practicability and Implementability: Because bioventing is commonly used to address similar contaminants and has been successfully implemented at this facility and operational since 1995, it has been demonstrated that bioventing is both implementable and practicable.

Treatment or Resource Recovery Technologies: Bioventing is a treatment technology that addresses removal of remaining LNAPL, including that currently existing as residual LNAPL in the deep subsurface/smear zone soils, and addresses petroleum groundwater contamination exceeding SSCLs.

Cost-Effectiveness: Bioventing has already been partially implemented and established as effective; therefore, cost-effectiveness is established.

Based on this analysis, bioventing meets the CECRA criteria and is included in the selected remedy, although expansion of the existing system is needed to fully address remaining contamination at the BN Missoula Facility.

The selected remedy will reduce risks to public health, safety, and welfare, and the environment through the following:

- The selected remedy will meet both threshold criteria: overall protection of public health, safety, and welfare, and the environment, and compliance with ERCLs. The remedy accomplishes overall protection through removal of remaining LNAPL, including LNAPL impacted deep subsurface/smear zone soils, and petroleum contaminated groundwater. Prohibiting the use of groundwater and restricting onsite zoning to commercial and industrial will prevent migration of contaminants into residential areas.
- The selected remedy mitigates risk to public health, safety, and welfare and the environment to an acceptable level because LNAPL, LNAPL impacted deep subsurface/smear zone soils, and contaminated groundwater will be remediated, thereby reducing the potential for exposure or impact.
- The selected remedy provides long-term effectiveness and reliability. Removal of LNAPL from the groundwater will remove the source of contamination for the deep subsurface/smear zone soils as well as petroleum contaminants in the groundwater.
- The selected remedy is technically practicable and readily implementable. Bioventing, natural source zone depletion and monitored natural attenuation are commonly implemented in environmental cleanups due to the long-term effectiveness and cost-effectiveness of the treatments. Annual groundwater monitoring at BN Missoula Facility indicates that LNAPL has decreased on the Facility with the exception of the December 2016 diesel spill which saw temporary increases in LNAPL.
- The selected remedy is cost-effective and balances incremental costs and incremental risk reduction focusing on reduction of LNAPL in combination with natural source zone depletion and monitored natural attenuation.

Based on the available data and DEQ's expertise, DEQ finds the selected remedy best meets the selection criteria and provides appropriate balance considering site-specific conditions and criteria identified in CECRA.

11.2 Detailed Description of the Selected Remedy

DEQ selected a combination of alternatives to address remaining LNAPL, groundwater, and subsurface/smear zone soil.

11.2.1 Site- Wide Elements

ICs and long-term groundwater monitoring are site-wide elements of the preferred remedy for the Facility. Detailed assumptions used for estimating costs for these common elements are provided in Section 9.1. The estimated cost for BN Missoula Facility site-wide elements is \$851,000. Engineering controls may also be needed to ensure the protectiveness and integrity of the remedy during implementation and prior to final cleanup; however, the cost of engineering controls was not designated in the FS. If engineering controls in addition to those already existing at the Facility (e.g., site fencing/security) become necessary, they will be specified during remedial design. A summary of site-wide elements included in the cost estimate are provided below. The complete cost estimate is provided in Appendix C, Table C-1.

11.2.1.1 Long-Term Monitoring

Performance monitoring of groundwater will be required to evaluate the effectiveness of the preferred alternative. The monitoring program may include sampling any monitoring wells in the existing network, as well as any new wells that may be installed, to evaluate the effectiveness of the selected remedy. The existing monitoring wells and any additional wells that will be included in the long-term monitoring plan will be determined after the ROD is issued, during or after remedial design. DEQ will require that BNSF submit a Long-Term Groundwater Monitoring Plan for review and approval after selection of the remedy and once the performance monitoring program has been identified.

For cost estimation purposes, it is assumed that groundwater monitoring will include semiannual sampling at high and low water conditions in years one through five and that following year five, sampling of some parameters may be reduced to an annual basis or eliminated if the selected remedy has reduced those contaminants to concentrations below SSCLs. In addition to monitoring of contaminants of concern, long-term monitoring will include sampling for geochemical indicators of natural attenuation (see Section 9.1.6 above). However, the specific requirements of monitoring will be determined after the ROD is issued, during or after remedial design.

11.2.1.2 Institutional Controls

The preferred remedy partially relies on the placement of a DEQ-prepared and DEQ-approved restrictive covenant on the onsite properties within the BN Missoula Facility to limit the future use to commercial/industrial (see Appendix B). The property is entirely owned by BNSF and leased by MRL. City water is currently supplied to the Facility and a MVWQD ordinance is already in place to prohibit new well installations (see Section 8.1.1 above); however, the ordinance is not sufficient to prevent the unauthorized use of groundwater and, by its terms, is not to be used as an IC. Therefore, the preferred remedy will also include a restrictive covenant

prohibiting the use of groundwater onsite at the Facility until SSCLs are met (see Appendix B). The most recent groundwater data shows minimal seasonal offsite exceedances of groundwater SSCLs, but if needed at the time ICs are placed, ICs will also be used to restrict groundwater usage offsite at the Facility until SSCLs are met.

11.2.1.3 Engineering Controls

Engineering controls such as fencing will be necessary during implementation of the remedy to protect the public from day-to-day railyard operations and heavy equipment, as well as to restrict access to the railyard. These engineering controls will be further detailed during remedial design.

11.2.2 Soil

The selected remedy for deep subsurface/smear zone soils exceeding SSCLs includes bioventing (Appendix C, Table C-2, Figure 13a and Figure 13b) to remove remaining LNAPL in the Facility subsurface/smear zone soils and NSZD to complete remediation of any remaining residual contamination to SSCLs. Bioventing involves the enhancement of natural in situ microbial degradation of petroleum hydrocarbons from LNAPL. NSZD (Appendix C, Table C-3, Figure 14) will address remaining residual contamination in the subsurface/smear zone soils acting as a source of groundwater contamination and can continue remediation of LNAPL if bioventing reaches a point of limited efficiency.

11.2.3 Groundwater

The selected remedy for groundwater is bioventing and MNA. Bioventing will allow for the removal of LNAPL from the groundwater. As identified in the cost estimate (Appendix C, Table C-, Figure 13a and Figure 13b), bioventing includes the addition of up to six wells to the bioventing systems already in-place in the WFA, up to four additional wells in the EFA bioventing system, and the addition of a bioventing system for the perched zone of the WFA. However, the specific requirements of the additional well installation will be determined during remedial design after the ROD is issued. This alternative is included in the preferred remedy because it is anticipated to be more effective and less costly than either AS/SVE or ISCO while still achieving risk reduction in a reasonable timeframe. The estimated cost of this alternative is \$2,021,000.

MNA (Appendix C, Table D-3, Figure 15) includes that the geochemical parameters will be monitored at twelve wells screened in the regional aquifer and eight wells screened in the perched zone. MNA will allow for the confirmation of long-term recovery of groundwater including the reduction of metals contamination in groundwater that is expected to occur once the petroleum contamination is degraded. More specific details of the long-term groundwater

monitoring program will be developed after the ROD is issued. The estimated cost for this alternative is \$330,000.

11.3 Cost Estimate for the Selected Remedy

Appendix C presents detailed summaries of the costs and assumptions for each component of the selected remedy.

The total costs for the selected remedy including sitewide elements is estimated to be \$3,531,000. These cost estimates were based on the information presented in the FS and provided in Appendix C of this ROD. Changes in the cost elements are likely to occur during the engineering design of the selected remedy or possibly as a result of new information during implementation. This is a feasibility-level engineering cost estimate expected to be within plus fifty to minus thirty percent of the actual project cost.

11.3.1 Cost Uncertainties

Remedial design will play an important role in determining final costs for the BN Missoula Facility remedy and will be more reflective of actual costs than the estimated costs presented in this ROD. Uncertainties that may affect the costs of the selected remedy include but are not limited to:

- The time required for NSZD, MNA and performance monitoring may increase or decrease the costs of the monitoring.
- Increases or decreases in the number of wells to be installed to expand the bioventing system as well as for monitoring NSZD.
- Costs associated with additional sampling may increase or decrease the cost if not reflective of what is included in the cost estimates.
- Costs associated with agency oversight of the remedial actions were not included in the cost estimates for the selected remedy. Costs associated with agency oversight may increase the cost of the selected remedy.

11.4 Estimated Outcomes of Selected Remedy

The selected remedy uses a combination of ICs, bioventing, NSZD, and MNA to control exposures, protect groundwater, and protect public health, safety, and welfare and the environment over the long-term. The remedy will reduce contaminant concentrations. Successful removal of LNAPL located in the groundwater and deep subsurface/smear zone soils will reduce the continuing source of contamination contributing to groundwater and deep subsurface/smear zone soils. Institutional and engineering controls, along with monitoring and maintenance, will

prevent exposure to contaminated soils, prevent exposure to contaminated groundwater and reduce the spread of contaminated groundwater and LNAPL.

It will likely take one year for remedial design and two years for construction. It is anticipated that bioventing will continue to operate effectively in the WFA for 11 years and 7 years in the EFA. NSZD and MNA will continue until groundwater concentrations are below cleanup levels and all other SSCLs are met. This is estimated to be 30 years for the purpose of estimating costs. Land uses are not expected to change as a result of the remedial action. Land use is expected to remain commercial/industrial at the BN Missoula Facility for the foreseeable future. ICs in the form of restrictive covenants will ensure that the onsite property at the BN Missoula Facility properties are restricted to commercial/industrial uses. ICs will also prohibit the installation of groundwater wells and the use of groundwater on the Facility to prevent exposure and migration of contaminants.

12.0 Statutory Determinations

Under Section 75-10-721, MCA, of CECRA, DEQ must select a remedy that will attain a degree of cleanup of the hazardous and deleterious substance and control of a threatened release or further release of that substance that assures protection of public health, safety, and welfare and of the environment. In approving or carrying out remedial actions performed under Section 75-10-721, MCA, DEQ must require cleanup consistent with applicable state and federal ERCLs, and may consider substantive state and federal ERCLs that are relevant to site conditions. In addition, DEQ must select a remedy considering present and reasonably anticipated future uses, giving due consideration to ICs. The selected remedy must mitigate risk, be effective and reliable in the short- and long-term, be practicable and implementable, and use treatment or resource recovery technologies, if practicable, giving due consideration to engineering controls. The selected remedy must also be cost effective. Finally, DEQ considers the acceptability of the remedy to the affected community, as indicated by community members and the local government. DEQ has considered all public comment received during the public comment period on the Proposed Plan and has responded to these comments in Part 3 of the ROD. DEQ did not make changes to the selected remedy based upon those comments.

The selected remedy is protective of public health, safety, and welfare and the environment, complies with ERCLs, mitigates risk, is effective in the short- and long-term, is practicable and implementable, uses treatment and resource recovery technologies, and is cost-effective.

The following sections discuss how the selected remedy meets the CECRA statutory requirements.

12.1 Protection of Public Health, Safety, and Welfare and the Environment

CECRA provides that protection of public health, safety, and welfare and the environment is a threshold criterion in selecting a remedy. DEQ has determined that the selected remedy appropriately protects public health, safety, welfare, and the environment through the following:

- Implementation of the groundwater, LNAPL, and subsurface soil remedies will provide protection of human health and the environment.
- Placement of restrictive covenants on the onsite property will restrict the property to commercial/industrial use.
- Restrictive covenants on the onsite property overlaying the groundwater plume before contaminant and LNAPL concentrations are reduced to meet SSCLs. This restriction is limited to the time while contaminants exceeding SSCLs as well as LNAPL remains.

12.2 Compliance With ERCLs

The final determination of ERCLs is included in Appendix A of this ROD. The selected remedy will comply with all applicable and relevant ERCLs. Some significant ERCLs compliance issues are discussed below.

For the COCs in groundwater, the contaminant-specific ERCLs for the remedial actions are the standards specified in the DEQ-7 standards and MCLs, and LNAPL will be removed to the maximum extent practicable. Treatment of groundwater and residual LNAPL in deep subsurface/smear zone soils and groundwater followed by NSZD and MNA will lead to compliance with applicable DEQ-7 standards within a reasonable timeframe.

12.3 Mitigation of Risk

The selected remedy for groundwater, LNAPL, and deep subsurface/smear zone soil was selected over other alternatives because it is expected to achieve timely, substantial, and long-term risk reduction through bioventing, natural source zone depletion, and monitored natural attenuation and is expected to allow the property to be used for the reasonably anticipated future land use, which is commercial/industrial. The selected remedy for groundwater was selected over the other alternatives because after the remaining source removal, it is expected to achieve substantial risk reduction through cost effective processes that have already been proven on the Facility. Restrictive covenants will limit future land use to commercial/industrial and limit the installation of wells and prohibit construction of new wells until SSCLs are met. The selected remedy reduces the risk within a reasonable timeframe and is cost-effective because it attains the highest level of risk reduction compared to cost.

12.4 Effectiveness and Reliability

The selected remedy will remove contamination from the deep subsurface soils, ground water, and reduce LNAPL through use of bioventing and natural processes. The preferred remedy provides for long-term reliability of remedy because groundwater and deep subsurface/smear soil soils will be addressed and confirmed with long-term groundwater monitoring to demonstrate all SSCLs have been met.

12.5 Practicability and Implementability

The selected remedy is technically practicable and implementable at the BN Missoula Facility because the technologies are routinely used successfully in the environmental field, and bioventing has been successfully demonstrated as effective previously at the Facility.

12.6 Use of Treatment or Resource Recovery Technologies

The selected remedy would treat the source materials using bioventing, so meets the statutory preference for the selection of a remedy that involves treatment as a principal element. The selected remedy is cost-effective, taking into account the total short- and long-term costs of the actions, including O&M activities for the entire period during which the activities will be required. The selected remedy provides overall risk reduction proportionate to the costs. To the extent that the estimated cost of the selected remedy exceeds the costs of the other alternatives, the difference in cost is reasonably related to the greater overall reduction in risk provided by the selected remedy and the reliability. The detailed evaluation of the balance of these criteria among the alternatives considered is set forth in the FS and in Section 10, Comparative Analysis of Alternatives, of this ROD.

12.7 Cost Effectiveness

The selected remedy is cost-effective, taking into account the total short- and long-term costs of the actions, including O&M activities for the entire period during which the activities will be required. The selected remedy provides overall risk reduction proportionate to the costs. To the extent that the estimated cost of the selected remedy exceeds the costs of the other alternatives, the difference in cost is reasonably related to the greater overall reduction in risk provided by the selected remedy and the reliability. The detailed evaluation of the balance of these criteria among the alternatives considered is set forth in the FS and in Section 10, Comparative Analysis of Alternatives, of this ROD.

13.0 Documentation of Notable Changes from Preferred Alternative of Proposed Plan

The Proposed Plan for the BN Missoula Facility was released for public comment on February 26, 2021. The Proposed Plan identified a combination of Alternative 2 (Bioventing) to address, LNAPL, deep subsurface/ smear zone soils and petroleum groundwater contamination; Alternative 3 (Natural Source Zone Depletion) to address remaining LNAPL mass; and Alternative 6 (Monitored Natural Attenuation) to allow for the confirmation of long-term recovery of groundwater including the reduction of metals contamination in groundwater. The preferred remedy also includes ICs and long-term groundwater monitoring. DEQ has reviewed and responded to all written comments for the Proposed Plan submitted during the public comment period (see Part 3), as well as oral comments received during the public meeting. DEQ incorporated some of those comments into the ROD when appropriate. However, there were no changes necessary to the final remedy selected in this ROD.

14.0 Administrative Record References

DEQ cited, relied upon, or considered the following in selecting the remedy for the BN Missoula Facility. It does not include legal citations such as those found in the MCA, ARM, USC, and Code of Federal Regulations (CFR). Any document, model, or other reference identified in the Final RI report (Kennedy/Jenks, 2000), BRA (Kennedy/Jenks, 2015), and the Final FS report (Arcadis, 2021b) are also incorporated herein as part of the administrative record.

Arcadis . (2020a). *2019 Annual Progress Report, Burlington Northern Facility Missoula.*

Arcadis. (2021a). *Preliminary Groundwater Analytical Results March 2021.*

Arcadis. (2021b). *Revised Feasibility Study Report, Burlington Northern Facility Missoula, Missoula MT. August 9.*

ATSDR. (1996). *ToxFAQs™ for Polycyclic Aromatic Hydrocarbons (PAHs).*

ATSDR. (1999). *ToxFAQs™ for Total Petroleum Hydrocarbons (TPH).*

ATSDR. (2007). *ToxFAQs™ for Arsenic.*

ATSDR. (2011a). *Arsenic Toxicity: What are the Physiologic Effects of Arsenic Exposure?*

ATSDR. (2011b). *Polycyclic Aromatic Hydrocarbons (PAHs) What Health Effects Are Associated With PAH Exposure?*

Bureau of Census. (2010). *2000 Census Data for Missoula, Montana.*

City of Missoula. (2009). *The Missoula Greater Downtown Master Plan. August.*

City of Missoula. (2016). City of Missoula Area Zoning (Map).

City of Missoula. (2019). *The Downtown Missoula Master Plan*. November 4.

DEQ. (1995, August 1). Special Notice Letter. Helena, Montana.

DEQ. (1998, December 6). Unilateral Administrative Order, Docket No. SF-98-1004. In the Matter of: Remedial Actions Under CECRA, Administrative Order on Certain Properties Owned or Operated by the Burlington Northern and Santa Fe Railway Company.

DEQ. (1999, October 7). Unilateral Administrative Order Amendment No. 1, Docket No. SF-98-1004.

DEQ. (2003). Unilateral Administrative Order Missoula, Amendment No. 2, Docket No. SF-98-1004. 5.

DEQ. (2011, October 24). Unilateral Administrative Order Missoula, Amendment No. 3, Docket No. SF-98-1004.

DEQ. (2016). *DEQ Letter re: Technical Memorandum (Revised)- Chemicals of Potential Concern for the Leaching to Groundwater Pathway, BN Facility Missoula*. October 31.

DEQ. (2018). Montana DEQ's Risk-Based Corrective Action, Risk-Based Screening Levels.

DEQ. (2019). Circular DEQ-7 Numeric Water Quality Standards.

DEQ. (2021, July). Memorandum: Evaluating Lead in Soil. Helena, MT.

DEQ. (2021b). Public Participation File for BN Missoula Facility. File No. 24-12 09 01.

Envirocon. (2006). *Missoula Rail Yard Fueling Area Diesel Spill Remediation Report*.

EPA. (1988). *Sole Source Aquifer Determination for the Missoula Valley Aquifer System*; 53 FR 20865.

EPA. (1993a). Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. March.

EPA. (1993b, September). Presumptive Remedies: Policy and Procedures. EPA 540-F-93-047.

EPA. (1993c). *Presumptive Remedies: Site Characterization and Technology Selection for CERCLA Site with Volatile Organic Compounds in Soils*. EPA 540-F-93-048. September.

EPA. (1995). *Integrated Risk Information System Assessment: Arsenic, inorganic*.

EPA. (1997). *Presumptive Remedy: Supplemental Bulletin Multi-Phase Extraction (MPE) Technology for VOCs in soil and Groundwater*.

EPA. (1999). *Presumptive Remedy for Metals-in-Soil Sites*.

EPA. (2009a, May). *Maximum Contaminant Levels*. Retrieved from Environmental Protection Agency website: https://www.epa.gov/sites/production/files/2016-06/documents/npwdr_complete_table.pdf

EPA. (2009b). *Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment)*, Final .

Hydrometrics. (1984). Unpublished report to Mountain Water Company . *Evaluation of Potential for Increased Groundwater Production from Wells for the City of Missoula*. Missoula, Montana.

Kennedy/Jenks . (2016b). *Revised Surface Soil Sampling Data Report*. April.

Kennedy/Jenks. (1989a). *Fueling Site Investigation- Monitor Well M-17*.

Kennedy/Jenks. (1989b). *Status Report Montana Fueling Sites*.

Kennedy/Jenks. (1996). *Technical Report 1996-1995 Bioventing Field Treatability Test Program*.

Kennedy/Jenks. (2000). *Final Remedial Investigation Report - Former Burlington Northern Fueling Facility, Missoula, Montana*.

Kennedy/Jenks. (2005a). *Montana Rail Link Fueling System Improvement - Soil Sampling Plan*.

Kennedy/Jenks. (2005b). *Treatability Study Work Plan*.

Kennedy/Jenks. (2006a). *Missoula Rail Yard Fueling Area Diesel Spill Remediation Report*.

Kennedy/Jenks. (2006b). *Progress Report- Evaluation of LNAPL Recovery at Monitoring Well M-45*.

Kennedy/Jenks. (2006c). *Technical Report, Supplemental Environmental Investigation*.

Kennedy/Jenks. (2007). *Revised Data Summary Report Supplemental Risk Assessment*.

Kennedy/Jenks. (2008). *Revised Anaerobic Column Study Report*.

Kennedy/Jenks. (2010a). *Final Investigation Report - Soil Gas/Indoor Air Sampling and Analysis*.

Kennedy/Jenks. (2010b). *2010 Annual Monitoring Report*.

Kennedy/Jenks. (2012). *Final Vapor Intrusion Investigation Report (Revision No. 3)*.

Kennedy/Jenks. (2013a). *Addendum to Final Vapor Intrusion Investigation Report (Revision No. 1)*.

Kennedy/Jenks. (2013b). *Burlington Northern Missoula Facility Supplemental Chemical Fate and Transport Analysis Data Aquisition Activities Results Summary*.

Kennedy/Jenks. (2014a). *Final Chemical Fate and Transport Analysis*.

- Kennedy/Jenks. (2014b). *Revised Multiphase Extract (MPE) Pilot Testing Summary Report*.
- Kennedy/Jenks. (2015). *3rd Revised Baseline Risk Assessment*. July.
- Kennedy/Jenks. (2016a). *Interim Remedial Action - Bioventing Construction Report*.
- Kennedy/Jenks. (2016a). *Interim Remedial Action - Bioventing Construction Report*.
- Kennedy/Jenks. (2016c). *Technical Memorandum: Chemicals of Potential Concern for Leaching to Groundwater Pathway, Burlington Northern Facility Missoula (Revision No. 1)*. October 25.
- Kennedy/Jenks. (2016d). *2016 Surface Soil Sampling Data Report*. December.
- Kennedy/Jenks. (2017). *Technical Memorandum: Updated Benzo(a)pyrene Toxicity Values and New Site-Specific Cleanup Levels*.
- MADEP. (2002). *Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of the MADEP VPH/EPH Approach, Final Policy*. Policy#WSC-02-411.
- MADEP. (2004). *Updated Petroleum Hydrocarbon Fraction Toxicity Values for the VPH/EPH Methodology*.
- McMurtrey, R. R. (1965). *Geology and Ground Water Resources of Missoula Basin, Montana*. Montana Bureau of Mines and Geology Bulletin 47 pp 35.
- MDHES. (1990). *Underground Storage Tank Permit*.
- MDHES. (1991). *Field Inspection Report*.
- MDHES. (1992). *Field Investigation Report*.
- Miller. (2014). *Personal communications (emails to Andrew Kearney, Kennedy/Jenks Consultants, Federal Way, Washington, regarding Mountain Water Company municipal water supply wells) Ross Miller, Mountain Water Company, Missoula, Montana*.
- Montana Rail Link. (2004). *New Railroad Park Adjacent to the Historic Depot Buildings on BN-Missoula CECRA Facility in Missoula, Montana*.
- MSDDCTEA. (2018). *Military Surface Deployment and Distribution Command Transportation Engineering Agency. Strategic Rail Corridor Network (STRACNET) and Defense Connector Lines*. October.
- MVWQD. (2008). *Missoula Valley Water Quality Ordinance, Section 13.26.090, Amended*. December. Missoula Valley Water Quality District .
- NOAA. (2016). *Local Climatological Data, Missoula, Montana*. Retrieved from <http://www.ncdc.noaa.gov/cdo-web/datatools/normals>
- Olympus. (1988). *Line Testing Report*.

- Olympus. (1991). *Tank Closure Report*.
- Olympus. (2016). *Petroleum Release Cleanup Report; Burlington Northern Facility Missoula*.
- Olympus. (2017). *Diesel Fuel Release Groundwater Monitoring and Soil Removal Report*.
- URS Consultants Inc. (1994). *Analytical Results Report- Screening Site Inspection*.
- USGS. (2020). *USGS Surface-Water Annual Statistics for USGS gaging stations 12341000 Rattlesnake Creek and 12340500 Clark Fork above Missoula, MT*.
- WeatherSpark. (2016). *Average Weather in Missoula, Montana, United States*. Retrieved from WeatherSpark: <https://weatherspark.com/averages/30955/Missoula-Montana-United-States>
- Woessner, W. W. (1988). *Missoula Valley Aquifer Study: Hydrogeology of the Eastern Portion of the Missoula Aquifer, Missoula County Montana*.

PART 3

RESPONSIVENESS SUMMARY

1.0 INTRODUCTION

The Montana Department of Environmental Quality (DEQ) solicited public comment on the February 2021 Proposed Plan (DEQ, 2021a) for the Burlington Northern Facility Missoula (BN Missoula Facility) in Missoula, Montana, during a public comment period that ran from February 21, 2021, through May 2, 2021. DEQ held a combined public meeting and hearing via Zoom on March 24, 2021. DEQ received oral comments at the public hearing. DEQ originally set the public comment period on the Proposed Plan to end on April 2, 2021. However, DEQ received requests to extend the public comment period and agreed to provide a one-month extension. DEQ received written comments from a number of individuals or organizations during the public comment period, some of whom had also provided oral comments during the public hearing.

1.1 COMMUNITY INVOLVEMENT BACKGROUND

The Montana Comprehensive Environmental Cleanup and Responsibility Act (CECRA) provides for the public to have input into the DEQ decision-making process with respect to the final cleanup of state Superfund facilities. At the BN Missoula Facility, DEQ has conducted more outreach and opportunity for public comment than is required by CECRA. For example, DEQ sought public comment on the Draft Final Remedial Investigation (RI) Work Plan (RIWP), as well as the Draft Final RI Report. For each public comment period, DEQ considered public comments and made changes to the document, if appropriate, based on the public comment. DEQ also held public meetings to discuss the RIWP and the RI Report. (See Section 3.0 of Part 2 for more detailed information.) DEQ also sought public comment on the Proposed Plan, considered public comment, prepared this written responsiveness summary, and made changes, as appropriate, to the Feasibility Study (FS) and the final remedy selected in the Record of Decision (ROD) based on public comment.

1.1.1 Notification of Public Comment Period

DEQ posted the Proposed Plan, a Site Update describing the Proposed Plan and preferred remedy, as well as notice of the public comment period and combined public meeting/hearing, on its website. On February 25, 2021, DEQ sent letters to the Missoula County Commissioners, the Mayor and the Missoula City Council, the Missoula City/County Health Department, the BNSF Railway Company (BNSF), and Montana Rail Link (MRL) notifying them of the public comment period and public meeting, as well as providing them the Site Update regarding the Proposed Plan. A legal notice of the public comment period and combined public meeting/hearing was published on February 25, 2021, in the Missoulian and on DEQ's website. This notice requested that any person requiring an accommodation notify DEQ in advance of the meeting; DEQ did not receive notification from anyone requesting an accommodation. DEQ held a public meeting/hearing via Zoom on March 24, 2021, to present and discuss the Proposed Plan, answer questions, and to receive oral public comments. DEQ received requests to extend the public comment period and agreed to provide a one-month extension, until May 2, 2021. A legal

notice of the extension of the public comment period was published on March 29, 2021, in the Missoulian and on DEQ's website.

1.1.2 Administrative Record

The administrative record is the set of documents DEQ cited, relied upon, or considered when determining the final remedy. References to the administrative record are found in Part 2, Section 14.0 of the ROD. The administrative record does not include legal citations such as those found in the Montana Code Annotated (MCA), Administrative Rules of Montana, United States Code (USC), and Code of Federal Regulations. Any document, model, or other reference identified in the Final Remedial Investigation Report (Kennedy/Jenks, 2000), Baseline Risk Assessment (BRA) (Kennedy/Jenks, 2015), fate and transport analysis (Kennedy/Jenks, 2014a), and FS (Arcadis, 2021b) are also incorporated herein as part of the administrative record.

1.1.3 Document Repositories

The complete files for the BN Missoula Facility, including the documents making up the administrative record for the ROD, are available for public review at the DEQ offices in Helena. A partial compilation of files, including major documents related to the Facility, is available for public review at the University of Montana Mansfield Library in Missoula. A copy of the ROD is also available for public review at the Missoula Public Library. DEQ's office in Helena:

Montana Department of Environmental Quality Remediation Division
1225 Cedar Street
Helena, MT 59601
Telephone: (406) 444-6444

University of Montana Mansfield Library
32 Campus Drive
Missoula, MT 59812
Telephone: (406) 243-6866

Missoula Public Library
301 E. Main
Missoula, MT 59802
Telephone: (406) 721-2665

1.1.4 Updates

To inform citizens about activities at the BN Missoula Facility, DEQ has published occasional informational mailings. These site update documents contained information on recently released documents, upcoming activities and meetings, completion of activities, sampling results and other information. The initial update was sent to occupants identified to live within or adjacent

to the Facility, and most were returned to DEQ as undeliverable. Subsequent updates were sent to City and County officials and other stakeholders. Informational updates will continue during remedial design and remedy implementation and will be mailed to those on the BN Missoula Facility mailing list (see Section 1.1.6). Information updates will also be available on DEQ's website at <https://deq.mt.gov/cleanupandrec/Programs/superfundstate>.

1.1.5 Toll-free Hotline

DEQ maintains an in-state toll-free number (1-800-246-8198) for people who want to contact DEQ about the BN Missoula Facility or other Superfund facilities. DEQ Remediation Division personnel direct calls to appropriate project officers. The toll-free number is answered in person during business hours. In addition, DEQ maintains a website at <http://deq.mt.gov>.

1.1.6 Mailing List

DEQ has established a mailing list for the BN Missoula Facility that will continue to be periodically updated. DEQ has solicited additions to the mailing list in recent informational updates and at the recent public meeting and will continue to do so moving forward. In accordance with state law, the mailing list is generally not released to the public.

2.0 Responsiveness Summary

2.1 Explanation

Comments received by DEQ during the public comment period on the Proposed Plan have been reviewed and considered by DEQ in determining the final remedy in the ROD; these comments are addressed in this Responsiveness Summary. Due to the volume of comments and given that many of them are similar in nature and subject, DEQ has summarized many of the comments below. In some instances, commenters provided statements of text that were background for a comment and do not require a response. However, while the comments are summarized here for brevity, DEQ considered each comment submitted in its entirety (including all attachments, references, and supporting documents that were provided) including comments submitted during the March 24, 2021, public hearing which were recorded during the meeting and then transcribed by a court reporter. Those verbatim comments and transcript are included in Appendix D (on CD in hard copy version) and are part of the administrative record.

To assist in developing responses, DEQ added its own numbering to comments where appropriate to add clarity. If a comment or comments are summarized, they are reflected in italics; verbatim comments are not italicized, and DEQ's response follows each. To avoid

duplication of some responses, similar comments are usually addressed only once for the first occurrence of the comment and thereafter are referenced to the appropriate response.

2.2 Comments and DEQ Responses

Comment 1: *Many comments received on the Proposed Plan objected to the proposal to identify the reasonably anticipated future use of the real property owned by BNSF within the Facility as commercial/industrial. The objections were based on a variety of reasons. As stated above, DEQ reviewed and considered the comments, which can be summarized to generally include: this proposed designation does not meet the needs of the Missoula community to provide for neighborhood growth, housing (including higher density single-family homes and multifamily rental housing), and economic development; current zoning of the property allows for light industrial, commercial, and residential use and development of multi-use zoned areas is occurring in Missoula; BNSF should not be allowed any short cuts or easy ways out in paying for cleanup; this cleanup should not defer the cost of future cleanup to taxpayers; zoning and the master plans should determine the future use of the Facility and DEQ is taking away local planning power; the Facility had uses prior to the existence of the City of Missoula and the railyard; and portions of the railyard currently have no structures and thus are able to be redeveloped for residential use. One commenter suggested that DEQ use OSWER Directive 9555.7-19 titled “Reasonably Anticipated Future Land Use and Reducing Barriers to Reuse at EPA-lead Superfund Remedial Sites” to evaluate reasonably anticipated future use and consider such things as demographics and housing data.*

DEQ Response: The BN Missoula Facility is being addressed under CECRA and Section 75-10-721, MCA, is the statutory provision that DEQ follows in selecting the final remedy at a CECRA facility. Subsection (2)(c) directs that DEQ “shall select remedial actions, considering present and reasonably anticipated future uses....” Section 75-10-701(18), MCA, defines “reasonably anticipated futures uses” as “likely future land or resource uses that take into consideration:

- (a) local land and resource use regulations, ordinances, restrictions, or covenants;
- (b) historical and anticipated uses of the facility;
- (c) patterns of development in the immediate area; and
- (d) relevant indications of anticipated land use from the owner of the facility and local planning officials.”

The determination of the “reasonably anticipated future use” impacts the site-specific cleanup levels (SSCLs) that must be met as part of the remediation at the Facility.

Under CECRA, DEQ is required to ensure that the selected remedy protects public health, safety, and welfare and the environment. Generally, evaluating the protectiveness of a remedy includes analysis of the underlying assumptions for exposure based on the reasonably anticipated future use (as defined in Section 75-10-701(18), MCA) of real property at the Facility. The remedial

actions selected by DEQ will achieve SSCLs consistent with the current and reasonably anticipated future land use.

In the Proposed Plan, DEQ recognized the existing offsite residential use of property within the Facility and, after analyzing the criteria outlined in Section 78-10-701(18), MCA, identified the reasonably anticipated future use of that offsite property as residential. That analysis is also found in Section 6.0 of the ROD. The public comments being considered here are directed at DEQ's identification of the reasonably anticipated future use of real property owned by BNSF, and currently leased by MRL, as commercial/industrial. This property is referred to as "onsite" or "railyard" property. The following response addresses the general comments regarding identifying the reasonably anticipated future use of the onsite portion of the Facility as commercial/industrial.

When making the determination of reasonably anticipated future use of the onsite property, DEQ analyzed the four criteria identified in Section 75-10-701(18), MCA, as follows:

a) Local land and resource use regulations, ordinances, restrictions, or covenants

According to the City of Missoula zoning map, the area of the BN Missoula Facility within the railyard is zoned as M1R, which is used to denote areas with Limited Industrial-Residential use. The current Missoula zoning regulations allow for a large variety of uses on M1R property, including residential, commercial, public/civic, and industrial uses (City of Missoula, 2016). However, while current zoning allows for residential use, DEQ cannot ignore that the Facility's current status as a railyard also involves federal regulations. While these federal regulations are not "local ... regulations, ordinances restrictions, or covenants" specifically contemplated by Section 75-10-701(18)(a), MCA, they may limit or impact the local zoning regulations. Railroads and railroad property are governed by the ICCA Termination Act of 1995 (ICCTA), 49 USC §§ 10501 *et seq.*, which established the Surface Transportation Board (STB). As part of the ICCTA, the STB retains broad and exclusive authority over construction, acquisition, operation, abandonment, or discontinuance of spur, industrial, team, switching, or side tracks, or facilities. The ICCTA also defines railyard to include any "freight depot, yard, or ground necessary for transportation." (49 USC § 10102(6)(C)). Under this federal law, the ICCTA retains authority over the rail line, depot, railyard, and related grounds included in the onsite property and, before BNSF could consider allowing it for residential use, BNSF would be required to formally apply for a change of use with the STB. The application process for abandonment includes providing the STB with the reasons for abandonment and a statement that the affected property is for sale, along with various notices. After an application, the STB needs to approve the abandonment for the property to be available for sale, and the rail properties offered for sale can only be sold under the conditions provided for in the STB's order. Therefore, the City of Missoula's zoning of this property as M1R may be of limited use in evaluating this factor due to the federal regulations.

(b) Historical and anticipated uses of the Facility

The onsite portions of the Facility have been used as a railyard since 1883. BNSF has indicated its property will be used as a railyard for the foreseeable future, and the property is currently subject to a long-term lease with MRL, who has also indicated an intent to continue use of the property as a railyard. In addition, the Missoula railyard is part of the Strategic Rail Corridor Network (STRACNET) and its associated connector lines, which are those civil rail lines designated as most important to national defense (MSDDCTEA, 2018). The inclusion of the Missoula railyard in STRACNET supports the anticipated future use of the onsite property as a railyard.

(c) Patterns of development in the immediate area

The onsite portion of the Facility has remained as a railyard for almost 140 years. While much of downtown has been redeveloped in some way, the immediate area of the Facility has continued to be used as a combination of commercial/industrial and residential, with some recent residential development infilling in multiple directions around the railyard.

(d) Relevant indications of anticipated land use from the owner of the Facility and local planning officials

DEQ solicited input from BNSF, as the owner of the onsite portion of the Facility and from both city and county planning officials. Because the onsite portion of the Facility is subject to a long-term lease, DEQ also sought MRL's input. Both BNSF and MRL indicated their intention that the onsite property continue as a railyard in the future. City and county planning officials indicated a desire for the railyard to be converted into mixed-use commercial/residential property.

DEQ is also aware that the City of Missoula revised its Downtown Master Plan in 2019 and that it states development of the railyard "should be considered as a possibility and thought of and discussed as a long-term possibility for downtown" (City of Missoula, 2019). This version of the plan updated the 2009 version of the plan, which indicated "there are currently no plans to abandon or relocate rail tracks or operations, but should the present uses be relocated or removed..." (City of Missoula 2009). While growth policies, including master plans, are not "regulations, ordinances restrictions, or covenants" contemplated by Section 75-10-701(18)(a), MCA, DEQ reviewed and considered the existing Downtown Master Plan in evaluating the factor found in Section 75-10-701(18)(d), MCA.

DEQ has conducted the statutory analysis of "reasonably anticipated future use" using the information available to it, including that in the administrative record, and has also considered the public comment it received during the public comment period. After careful consideration,

DEQ has determined that the reasonably anticipated future use of the onsite portion of the BN Missoula Facility, currently owned by BNSF, is commercial/industrial.

The current zoning allows for some residential use, but that zoning must be considered in light of the federal railroad regulations that govern the railyard. Current and historical use of the onsite portion of the Facility is commercial/industrial, and it is designated as part of STRACNET (MSDDCTEA, 2018). While the onsite portions of the Facility remain wholly commercial/industrial, DEQ recognizes there has been residential development offsite. Finally, the relevant indications from the owner of the onsite property and local planning authorities were at odds, with the owner indicating no intention to use the onsite property for anything besides commercial/industrial and the local planning authorities indicating a desire for future residential use. DEQ analyzed the “reasonably anticipated future use” of the onsite property as directed by Section 75-10-701(18), MCA, and considered the comments received during the public comment period and determined the reasonably anticipated future use of the onsite portion of the BN Missoula Facility is commercial/industrial. DEQ’s determination that the reasonably anticipated future use of the offsite portion of the Facility is residential is validated by the statutory analysis.

In response to the comment that DEQ should use OSWER Directive 9355.7-19 to evaluate reasonably anticipated future use, DEQ notes that this is a guidance document issued by EPA to support its policy of encouraging property reuse at CERCLA sites. However, the BN Missoula Facility is not a CERCLA site and DEQ has a statutory mandate in CECRA that identifies the criteria to be evaluated in making a reasonably anticipated future use determination, which differ from those in the OSWER directive. Therefore, DEQ will comply with CECRA in conducting the reasonably anticipated future use analysis.

There were numerous public comments on the Proposed Plan indicating commenters’ request that the onsite portion of the Facility be remediated to residential-based SSCLs. However, requiring cleanup to this level is only warranted if the reasonably anticipated future use of the onsite property is residential. Residential-based SSCLs will apply to the offsite portion of the Facility.

Comment 2: These toxins present at BN Missoula have been shown to cause cancer and this obviously shortens life expectancy and creates a poor quality of life. With this, it makes sense to raise the standards to residential status.

DEQ Response: Please see Response to Comment No. 1 for a discussion regarding reasonably anticipated future use of the onsite portion of the Facility. Within the risk assessment, risks associated with various contaminants were evaluated, including a risk assessment for carcinogenic effects. Based on the risk evaluation in the risk assessment, SSCLs were calculated to be protective of human health.

Comment 3: *DEQ received several comments concerning the City of Missoula’s master plans, the most recent of which was adopted in late 2019. Both of the most recent plans indicated the*

railyard as a potential site for residential development in the event that BNSF ever decided to transfer the property.

DEQ Response: DEQ understands the effort and public input that went into preparation of the various master plan documents. The 2019 version of the Downtown Master Plan states development of the railyard “should be considered as a possibility and thought of and discussed as a long-term possibility for downtown” (City of Missoula, 2019). The 2009 version of the plan likewise states, “there are currently no plans to abandon or relocate rail tracks or operations, but should the present uses be relocated or removed...” (City of Missoula 2009). Growth policies, including master plans, are permitted under Section 76-1-605, MCA. However, the statute specifically states that a growth policy is not a regulatory document and does not confer any authority beyond that which is specifically authorized in laws and regulations. DEQ evaluates reasonably anticipated future use of the Facility as required by CECRA, which it has done. See also Response to Comment No. 1.

Comment 4: *DEQ received multiple comments from citizens stating a desire for the property to remain a railyard and for cleanup to be done to commercial/industrial levels.*

DEQ Response: Please see Response to Comment No. 1; DEQ determined that the reasonably anticipated future use of the onsite portion of the Facility is commercial/industrial and selected SSCLs protective of that use.

Comment 5: The map outlining the perimeter of the contaminated site appears to include some homes on E. Alder St. How would DEQ address this and those residents if it did not clean up to meet residential standards? What would that mean for the current and future safety of their property? Moreover, is there evidence the underground contamination is moving south towards Spruce street? That area has many homes with families. How will DEQ consider the underground fate and transport of contaminants towards residential properties in the selection of which clean up option to choose?

DEQ Response: The Facility includes offsite residential areas and those areas currently used as residential are identified to have a reasonably anticipated future use as residential. Based on the residential-based SSCLs, no cleanup of those offsite residential areas is necessary. The onsite (railyard) portion of the Facility is the portion of the Facility determined to have a reasonably anticipated future use of commercial/industrial, and therefore cleanup of this portion of the property will be to SSCLs protective of that use. The identified groundwater petroleum plume has historically extended off the railyard property south of the East Fueling Area towards Spruce Street. Contaminant concentrations in groundwater in this area have reduced through time and will continue to reduce as areas of petroleum free product continue to be broken down by remedy components like bioventing and natural source zone depletion until they are no longer detected at concentrations above established SSCLs. The most recent groundwater data shows concentrations below groundwater SSCLs in some events and above in other events, which is expected as contamination continues to be reduced. DEQ required BNSF to evaluate the fate and

transport of contaminants in the subsurface, including an evaluation of contaminants leaching to groundwater (called a fate and transport analysis) as part of the risk assessment. SSCLs for soil that are protective of the leaching to groundwater pathway were calculated as a result of this analysis. These SSCLs, as well as those for groundwater, must be met as part of implementing the selected remedy, and free product petroleum must also be addressed to meet SSCLs.

Comment 6: Due to the current housing crisis in Missoula, the railyard is the prime location in its area of town for residential development to alleviate the immediate crisis. Additionally, would it be possible for the railyard to be moved to a different location to accommodate the need for housing?

DEQ Response: DEQ is required to identify the reasonably anticipated future use of the Facility according to statutorily defined criteria. As noted in the Response to Comment No. 1 above, modifications of railyards, including relocating them, are long and arduous processes involving numerous federal regulations and the process would need to be initiated by BNSF. Additionally, DEQ would not require BNSF to move the railyard as part of remedy implementation.

Comment 7: Attainability of homeownership for the majority of our community is not currently possible. We would urge the DEQ to reconsider its remediation plan to include clean-up to a residential standard for the portion of the onsite BNSF Facility north of the main tracks. To preclude the option for mixed use residential development opportunities within the city's core only further entrenches the barriers to improving supply.

DEQ Response: Please see Responses to Comments Nos. 1 and 6.

Comment 8: Starting in the late 1800s, predecessors to what is now the BNSF Railway Company developed and operated a railyard in Missoula, Montana. The railyard property includes both mainline track and supporting railroad infrastructure. Since the late 1980s, this property has been operated by Montana Rail Link. The railyard and mainline provide a critical link for interstate commerce moving to and from the West Coast. In addition to providing a transportation route for the goods that Montanans buy and sell, railroad operations along this line have been identified as critical to national security interests (Strategic Rail Corridor Network (STRACNET)).

DEQ Response: Please see Response to Comment No. 1 for an analysis of reasonably anticipated future use of the onsite property at the Facility. DEQ reviewed the designated Strategic Rail Corridor Network for Montana and confirmed that the Missoula railyard/line is within that network (MSDDCTEA, 2018) and the reasonably anticipated future use analysis was revised to reflect this information.

Comment 9: BNSF understands that some commenters have suggested that commercial/industrial use is inconsistent with Missoula’s Master Plan for the Railyard Property. BNSF, the owner of record of the Missoula Railyard, was not consulted when Missoula developed its “Master Plan.” We understand that this plan identifies the Missoula Railyard as better suited for residential housing. This, some commenters have urged, suggests the appropriate clean-up levels should be residential ones. BNSF has also heard commentators suggest that residential use will automatically follow a clean-up to residential standards. BNSF strongly disagrees. BNSF’s property is used for interstate railroad facilities and operations and there are no plans to use it for any other purposes so long as it is owned by BNSF. Neither the City nor the County has any authority to change the use of BNSF’s property, now or in the future, or to attempt to use zoning authority to force BNSF to cease interstate railroad operations on its property.

DEQ Response: Comment noted. Please see Response to Comment No. 1 for an analysis of reasonably anticipated future use of the onsite property at the Facility. Please see Response to Comment No. 8 regarding the inclusion of this railyard/line in the Strategic Rail Corridor Network.

Comment 10: MRL is aware of the housing challenges Missoula and many communities in Montana face, but the broader Missoula Railyard complex will continue to serve as a center for railroad operations and interstate commerce. As a result, it is reasonable to anticipate that the future use of the Missoula railyard will be for commercial and/or industrial purposes. MRL is proud of the partnerships it has formed with the residents of Missoula and will continue to work with the community to address quality of life concerns now and into the future. MRL’s network serves as a growing freight corridor and, as part of the Strategic Rail Corridor Network, has been identified as paramount to national security interests as well. Though MRL appreciates that the Missoula Downtown Master Plan is aspirational in nature, MRL has no plans to discontinue railroad service on any portion of its network, including the Missoula Railyard.

DEQ Response: Comment noted. Please see Response to Comment No. 1 for an analysis of the reasonably anticipated future use of the onsite property at the Facility.

Comment 11: If there was any indication that all or portions of the property were to be vacated by BNSF in the reasonably anticipated future, I would be making a recommendation in line with elected officials, but that is not the case. In fact, the County Commissioners are actively promoting passenger rail service through Missoula which, if anything, makes the anticipated use of the property for railroad use longer, not shorter.

DEQ Response: Comment noted. Please see Response to Comment No. 1 for an analysis of the reasonably anticipated future use of the onsite property at the Facility.

Comment 12: My experience with the Downtown Master Plan is that it was not developed considering environmental suitability of the site for residential use and the planning process did not have adequate participation from the general public.

DEQ Response: Comment noted. Please see Response to Comment No. 1 for an analysis of the reasonably anticipated future use of the onsite property at the Facility.

Comment 13: I think there should not be residences there, tucked in between the railroad and the interstate. I think it is a bad idea. There are other, less toxic, places in Missoula for homes. My idea would be to clean it up for industry, say, a solar panel industry with green space around, basically a small park. The railroad and city combined to build the rail park by the Southgate Mall, and it is very nice. I can see something like that along with industry but think it unwise to build houses and apartments or any other residences there.

DEQ Response: Comment noted. Please see Response to Comment No. 1 for an analysis of the reasonably anticipated future use of the onsite property at the Facility.

Comment 14: The proposed property being located so closely to the rail yard would make a bad area for residential housing for that reason. It's loud, dusty, and the traffic is terrible from there. It would be better served as an industrial area.

DEQ Response: Comment noted. Please see Response to Comment No. 1 for an analysis of the reasonably anticipated future use of the onsite property at the Facility.

Comment 15: The cleanup proposed in the plan involves bioventing and allowing natural processes to biodegrade the remaining petroleum contaminants in the groundwater and surface soils. Soil levels of petroleum hydrocarbons and metals exceed residential values throughout the site. However, under the assumption that future use of the entire site will remain industrial/commercial, there is no plan to remove the heavily contaminated surface soils . . . since the discovery of the petroleum-product contamination in the 1980s at BN, the property owners have demolished and divested much of the eastern fueling area and former roundhouse areas of the Facility, which are now largely vacant and unused.

DEQ Response: Comment noted. SSCLs at the BN Missoula Facility have been calculated to achieve protectiveness of both human health and the environment. Please see Response to Comment No. 1 for an analysis of the reasonably anticipated future use of the onsite property at the Facility.

Comment 16: BNSF needs to be held accountable for the pollution it created and should not be allowed any short cuts or easy ways out of cleanup.

DEQ Response: In selecting the remedy for the Facility, DEQ has applied the statutory factors found in CECRA, considered the acceptability of the proposed remedy to the affected community as expressed during the public comment period, and selected a remedy in compliance with those statutory factors after consideration of public comment. BNSF will be required to institute the remedy that DEQ selects in the ROD.

Comment 17: DEQ completed the baseline risk assessment in 2015. Also, in 2015 a residential surface soil and background soil sampling work plan investigated background concentrations of PAHs in surface soil in Missoula and in residential yards adjacent to the facility. In 2016, DEQ reviewed and provided comment on BN's initial draft of the FS and determined additional residential soil sampling was required based on the results of the 2015 sampling efforts. This sampling was completed in October and December of 2016 and BN submitted a sampling data report. Then in 2017 the EPA updated the toxicity data for benzo(a)pyrene which changed the PAH site-specific clean-up (SSCL) level from 0.23 mg/kg to 1.7 mg/kg. This change reduced the risk of the offsite residential levels to below the threshold for clean-up. The final FS demonstrates where they found exceedances and unacceptable risks for PAHs in surface soil onsite and offsite associated with residential exposure. Mainly we were looking at the exceedances from figures 10-12 in the FS. The one location that was highlighted was 210 N 2nd E and had discrete sample concentrations of 2.83 and 2.05 mg/kg. The acceptable limits of certain COC's changing from more protective to less protective, has long-term adverse consequences for neighborhoods like the Northside.

DEQ Response: As outlined in the comment, DEQ required BNSF to expand sampling from that historically conducted in 1993 and re-sampled using newer methods in 2015 for offsite residential structures located in the vicinity of the railyard. DEQ required additional expanded sampling because the concentrations of one sample location from the 2015 sampling event exceeded the established SSCL (0.23 milligrams per kilogram (mg/kg)) for total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) in place at the time. DEQ required expanded sampling to ensure the extent of contamination was established such that it could be used in the FS for evaluation of alternatives, cost estimates, etc. BNSF conducted additional expanded sampling and identified five additional residential lots that exceeded the SSCL of 0.23 mg/kg. However, in January 2017, the U.S. Environmental Protection Agency (EPA) issued the final assessment of benzo(a)pyrene, which updated the 1987 assessment to reflect new information and included new toxicological information for benzo(a)pyrene. DEQ uses a toxicity equivalence approach for cPAHs based on the compound benzo(a)pyrene, the most toxic of the cPAHs. In this approach, toxicity equivalency factors (TEFs) developed by the EPA are used as multipliers to adjust the sample results for individual cPAHs as they relate to the toxicity of benzo(a)pyrene. These adjusted values are then totaled, and the sum is compared to the total cPAH SSCL to determine the need for further action. The new EPA assessment indicated that benzo(a)pyrene was not as toxic as originally identified; DEQ relies on toxicity information from EPA for evaluation of risk and inclusion in SSCL calculations. Therefore, once the new toxicity

information was included in the cPAH SSCL calculations, the SSCL for offsite residential yards increased to 1.7 mg/kg. The residential yards were sampled using a five-point composite sampling approach where five sub-samples are collected from throughout the residential yard and combined to create one sample representative of the entire yard. This is a common practice for residential yard sampling and is consistent with EPA's guidance. Where the composite sample exceeded the initial SSCLs, BNSF also analyzed each individual sub-sample to get a better idea of where the elevated levels were located to assist with planning for remedy implementation should soil removal be determined necessary by DEQ. The difference in concentration between the composite sample and related discrete samples demonstrates that the samples came from heterogeneous soils as opposed to a continuous concentration throughout the yard. For this reason, DEQ relied on the composite sample that represents exposure to the entire yard for comparison to the SSCL instead of one specific point in the yard. The total cPAH concentrations for all the yards that exceeded the initial SSCL (ranging from 0.16-0.66 mg/kg) are below the re-calculated SSCL (based on newer toxicity information) of 1.7 mg/kg.

Comment 18: If the railyard is not cleaned up to residential standards, will the City of Missoula and thus taxpayers be required to pay for any additional cleanup?

DEQ Response: DEQ has identified the reasonably anticipated future use of the onsite portion of the Facility (BNSF's owned property) as commercial/industrial and selected SSCLs protective of that use. DEQ will not require any additional cleanup beyond what is required by the ROD for the onsite property so long as it continues to be used for commercial/industrial purposes. Institutional controls (ICs) will be placed on the railyard property as part of the remedy implementation to prohibit residential use and those ICs will remain in place. BNSF is required to implement the ROD and pay for the cleanup.

Comment 19: *DEQ received several comments concerning potential bifurcation of the BN Missoula Facility to allow for portions of it to be cleaned up to residential levels. These comments referenced the Missoula White Pine Sash Facility and its divided future uses among both various owners and various parcels.*

DEQ Response: The statutory analysis of reasonably anticipated future use at the Missoula White Pine Sash (MWPS) Facility is distinguishable from that at the BN Missoula Facility. Most notably, analysis of the statutory factors for evaluating reasonably anticipated future use weighed in favor of the residential use for the northern portion of the MWPS Facility which had been marketed by its owner for potential residential development, was not an active railyard governed by the STB, and had been vacant property for a substantial amount of time. None of these factors exist at the BN Missoula Facility.

Comment 20: Among other reasons, aquifer protection and public safety are critical to downtown mixed-use development -- which means commercial and residential development of the historic buildings on either side of the railyard. I created the Downtown Missoula (National) Historic District in part to enable historic tax credits as incentives for downtown revitalization. This and

other credits, are real money incentives that make development happen, which creates jobs and spin-off businesses.

DEQ Response: Comment noted. As described in the ROD, the selected remedy will be protective of public health, safety, and welfare and the environment.

Comment 21: The option in the Proposed Plan for storing topsoil in the East Fueling Station would indicate that area is currently not in use and thus would be available for residential development.

DEQ Response: While this was presented as an option in the FS, DEQ did not select this alternative as part of the final remedy at the BN Missoula Facility. In addition, the fact that an active industrial facility has a location available for stockpiling soil does not mean that location would be suitable for residential use.

Comment 22: *DEQ received several comments to extend the comment period to allow for more public involvement in the comment process.*

DEQ Response: Based on public request, DEQ extended the comment period 30 additional days, to May 2, 2021, to allow more time for public comment.

Comment 23: The Missoula Railyard has long been an issue in local water quality. It sits at the upstream end of the Missoula valley aquifer and affects the entire valley. Groundwater rushes out of Hellgate Canyon and flushes Railyard pollution into the main valley aquifer.

DEQ Response: Impacts to groundwater from the Facility are addressed in the final remedy selected in the ROD and includes remediation of the groundwater at the Facility to meet SSCLs for groundwater.

Comment 24: Is the public currently at risk to dust and aerosols blowing off this site into adjacent neighborhoods?

DEQ Response: As part of the risk evaluation for offsite residents in the BRA, inhalation of dust from surface soil and inhalation of volatiles released from groundwater into ambient or indoor air were evaluated. Volatile emissions into indoor air were evaluated through an indoor air investigation in offsite structures at the Facility, where vapor intrusion into air within structures overlying the contaminated groundwater plume was evaluated and determined to not be a significant contributor to indoor air concentrations. Volatile emissions into ambient air were anticipated to rapidly disperse in the atmosphere, so exposure was insignificant, thus limiting potential risk and not warranting further evaluation. The possibility of surface soil inhalation via dust was included as part of the offsite residential exposure evaluation, and SSCLs calculated for residential yards did not indicate the need for cleanup. In addition, sampling conducted in residential yards off the railyard property identified limited extent of detected contaminants,

confirming that contaminants were not widely spread into the neighborhood surface soil via deposition as dust.

Comment 25: A series of air quality tests need to be done. Especially during the winter and during our fabulous inversions that we get here.

DEQ Response: Indoor air and ambient outdoor air sampling on and offsite in the vicinity of the railyard was done during the winter months as part of the vapor intrusion investigations for the Facility (see Section 2.3 of Part 2 of the ROD) and associated risks evaluated. As outlined in Section 7.1.2.3 of Part 2 of the ROD, vapor intrusion into indoor air was not found to be a significant contributor to indoor air concentrations and was therefore not evaluated further.

Comment 26: Please clean up the tanks on the property.

DEQ Response: Underground tanks on the onsite portions of the Facility have been removed, leaving two aboveground tanks that are actively in use by MRL for daily operations. Any potential contamination from the historic underground storage tanks or more recent releases associated with ongoing activities are addressed in the selected remedy.

Comment 27: Residential development existed close to the railyard in its early years, not including the period before the railroad when no industrial development existed in the area.

DEQ Response: Comment noted. The ROD addresses the offsite residential use of property within the Facility.

Comment 28: Fencing off the area that currently has no structures and installing signage to discourage trespass will only point out a major social failure of process and bureaucratic will. In that circumstance, signage could accurately read, “Stay out. Contaminated Soil.”

DEQ Response: As noted in Section 9.1 of the ROD, engineering controls are considered a common element of alternatives considered for the Facility, which may include additional fencing and/or signage. Property perimeter fencing is already present onsite at the Facility and BNSF and/or MRL may elect to install additional fencing or signage as part of remedial design.

Comment 29: As the railyard has transitioned away from maintenance at the site and altered its fueling and waste systems, a pattern of divesting of infrastructure and use of the east end of the property has occurred. For example, the 19-stall roundhouse, garage, shop buildings, and material storage area was demolished in 1983. By 1998 the underground oil-water separator, UST, and grit chamber were removed. Aerial photos of the site from 1955 compared to present day illustrates these changes, making the now empty section of the site the most likely location for re-development.

DEQ Response: Comment noted. Please see Response to Comment No. 1 for an analysis of the reasonably anticipated future use of the onsite property at the Facility.

Comment 30: Due to the likelihood for residential development of the areas around and east of the former roundhouse area, a desire to reduce long-term public health risks, and the need to prevent taxpayers from bearing the burden of future soil excavations, we urge that DEQ:

- Establish a “zone of high-development potential” that incorporates community and property owner feedback on areas most likely to be developed for future residential use.
- Use current soil concentrations of COPCs to identify residential COCs and perform a hazard analysis to future residents in this zone
- Establish residential SSCLs for COCs in these target areas.
- Amend the Proposed Plan to include options for targeted soil removal. This alternative would be much less expensive than the total removal/paving alternatives that are currently evaluated, especially if contaminated soils were disposed of locally.

DEQ Response: As discussed in Section 7.0 of the ROD, risks associated with the various reasonably anticipated future uses of the Facility were evaluated and SSCLs calculated where appropriate. DEQ will require that soil SSCLs consistent with the identified reasonably anticipated future uses are already met or will be met through implementation of the selected remedy. Please see Response to Comment No. 1 for an analysis of the reasonably anticipated future use of the onsite property at the Facility.

Comment 31: In a scenario absent of onsite soil removal, we are concerned about lead migration offsite. In 2017 screening levels for lead based on a 5ug/dL blood lead endpoint lowered the residential screening level for lead from 400mg/kg to 156 mg/kg. The overall onsite exposure point concentration of 230 mg/kg is below the commercial screening of 696 mg/kg, but not residential screening levels. Leaving these soils in place does not address the possibility of the Facility being a source for the offsite lead levels via windblown dust. There is one sample in the old roundhouse area, across the street from most of the offsite exceedances, at 1160 mg/kg. This risk is further justification for soil removal from areas adjacent and downwind of residential areas.

DEQ Response: DEQ understands the commentor to be referencing onsite sample location TR-23, which is located south of the former roundhouse footprint between the former roundhouse and the mainline tracks. This grid location sample had a lead concentration of 1106 mg/kg in the sample collected from 18-24 inches below ground surface (at the bottom of what is considered surface soil and not readily available for blowing offsite as dust). The shallow surface soil composite sample from the 0-6 inches below ground surface interval for this sample location had a lead concentration of 431 mg/kg. Sample location TR-25 was collected nearer the northeastern edge of the former roundhouse area at the Facility and directly across the street from a residence with an elevated lead sample concentration. However, the onsite sample TR-25 had a 0-6 inch

interval sample lead concentration of 406 mg/kg, which was lower than that detected in the residential yard directly across the street (671 mg/kg). Similarly, the sample collected from a residence on A St. had a surface soil lead concentration of 407 mg/kg, but the surface soil samples on the railyard property in the vicinity of this location were lower than the offsite concentration. As stated in the BRA, comparison of onsite and offsite lead concentrations does not demonstrate a likelihood that offsite soil lead concentrations are attributable to the Facility. Overall, the sampling conducted in offsite residential yards identified a limited extent of detected contaminants, confirming that contaminants were not widely spread into the neighborhood surface soil via deposition as dust.

Comment 32: In 2016, DEQ reviewed and provided comment on BN's initial draft of the FS and determined additional residential soil sampling was required based on the results of the 2015 sampling efforts. This sampling was completed in October and December of 2016 and BN submitted a sampling data report. Then in 2017 the EPA updated the toxicity data for benzo(a)pyrene which changed the PAH site-specific cleanup (SSCL) level from 0.23 mg/kg to 1.7 mg/kg. This change reduced the risk of the offsite residential levels to below the threshold for clean-up. Our concern is that given the previous SSCL of 0.23 mg/kg for cPAHs, a more extensive offsite soil clean-up was presumed. Therefore, the soil sampling design and density conducted offsite in 2016 was likely not designed to identify hot-spots. Therefore, concluding that no offsite remediation is warranted since composite sample values for PAHs in offsite surface soil do not exceed the new SSCL of 1.7 mg/kg, may be inaccurate. Discrete sample concentrations of 2.83 and 2.05 mg/kg exist in the front yard of 210 N. 2nd E. – well above the SSCL. These values are two to three orders of magnitude above background values. Also, we could not find updated PAH soil values for offsite locations 837 A St, 825 A St, 102 and 108 N 2nd St E , and no other discrete soil sample results were provided in the FS (only composite averages). Similarly, discrete samples for soil lead from 210 N. 2nd E. and 837 A St. appeared to exceed residential screening levels (156 mg/kg), with concentrations of 671 and 407 mg/kg, respectively.

DEQ Response: The initial residential yard sampling associated with the Facility occurred in 1993 as part of an EPA Screening Site Inspection which collected samples for various compounds, including PAHs and lead. Those initial concentrations were carried forward into the risk assessment and used to evaluate risk. Regarding PAHs, BNSF collected newer data from historical offsite sample locations in November 2015 during preparation of the FS to further evaluate cPAHs onsite and offsite. This sampling was conducted after the SSCL for cPAHs was calculated in the BRA and eight of the nine historical residential yard samples from the 1993 event were identified to exceed the newly calculated SSCL. BNSF proposed to resample the previously sampled offsite locations that exceeded the cPAH SSCL to evaluate current conditions using newer analytical methods with better detection limits and was successful in sampling some of those locations (210 N. 2nd St. E., 404 E. Spruce St., 418 E. Spruce St., 532 Pattee St., and 801/803 Ryman St.). However, the property owners declined access for sampling at 837 A St. and 245 E. Alder St., and renovation and landscaping activities eliminated accessible native soil to sample at 229 E. Alder St., so no samples were collected from these

locations. The results from these sampling activities showed that only the composite sample from 210 N. 2nd St. E. exceeded the SSCL in place at that time (0.23 mg/kg) and as outlined in Response No. 17, BNSF further analyzed each individual (discrete) sub-sample that made up the composite to get a better idea of where the elevated levels were in the yard to assist with planning for remedy implementation should soil removal be determined necessary by DEQ (Kennedy/Jenks, 2016d). DEQ subsequently required BNSF to collect samples from residences adjacent to the 210 N. 2nd St. E. location (202, 138, and 130 N. 2nd St. E.) as well as from onsite locations along the northeastern property boundary adjacent to N. 2nd St. E. to further characterize the PAH concentrations in September 2016, and samples were collected in October 2016. Based on those preliminary results, DEQ required an additional three offsite residential yard locations (114, 108, and 104 N. 2nd St. E.) be sampled to step out further in November 2016; the sampling was performed in December 2016, although the owner at 108 N. 2nd St. E. declined access so no sample was collected. Due to exceedances of the initial 0.23 mg/kg SSCL for cPAHs, BNSF again opted to analyze the discrete samples that made up the composite for the shallowest interval sampled at the offsite locations for its own use in evaluating remedies and that information was presented in the 2016 Surface Soil Sampling Data Report dated December 2016 (Kennedy/Jenks, 2016e). Please see Response to Comment No. 17 for more information about DEQ's use of the composite sample versus the discrete sub-sample results for comparison to SSCLs in the residential yards. As described in the Response to Comment No. 32, the BRA determined that comparison of onsite and offsite lead concentrations does not demonstrate a likelihood that offsite soil lead concentrations are attributable to the Facility. The onsite surface soil lead exposure point concentration of 230 mg/kg is below DEQ's lead commercial/industrial screening level of 696 mg/kg.

Comment 33: Plumes of measurable LNAPL and EPH exceeding RBSLs, along with arsenic at levels that exceed MCLs, exist in both the perched and regional aquifers both on and off the BN property. We are concerned about the exclusive long-term (22-30 yrs) nature of the proposed remedies and of the three, only bioventing provides for active biodegradation over existing natural processes. One requirement of the selected cleanup option is to meet seven specific criteria, including short-term effectiveness and the practical use of treatment technologies.

DEQ Response: The commentor is correct that alternatives must be evaluated against the seven remedy selection criteria provided in Section 75-10-721, MCA. These criteria are discussed in detail in Section 9 of Part 2 of the ROD. DEQ understands the commentor to be referencing the Effectiveness and Reliability criterion, which requires that alternatives are evaluated in the short and long-term, based on whether acceptable risk levels are maintained, and further releases are prevented. The commentor is also referencing the Treatment or Resource Recovery Technologies, which addresses use of treatment or resource recovery technologies, if practicable, giving due consideration to engineering controls. In evaluating alternatives at CECRA facilities, there are often alternatives that do not meet acceptable risk levels in the short term but will eventually meet acceptable risk levels in the long term. In those cases, the short-term risks are considered and may rely on ICs such as deed restrictions to limit use of groundwater, etc., or

engineering controls like fencing to control access until such time as acceptable risk levels are met through other remedy components, particularly if such activities can ensure no additional releases of contaminants. The remedy selection criteria do not preferentially require short term risk mitigation over long-term considerations when selecting a remedy. Rather, alternatives are combined to consider both short and long-term risks in selecting a remedy that best addresses the contamination at the Facility. For this Facility, DEQ has selected a combination of an active treatment technology, bioventing, combined with more long-term alternatives natural source zone depletion and monitored natural attenuation, that use natural processes to degrade contamination. In combination, these remedy components will address the remaining contamination at the Facility, and the inclusion of ICs will prohibit use of the groundwater until such time as it meets SSCLs, as well as prohibiting residential use of the onsite property to ensure short- and long-term risk levels are maintained.

Comment 34: While bioventing and natural attenuation have contributed to reduction of hydrocarbons in groundwater over time, the process is slow, particularly under anaerobic conditions, and it should be augmented by in situ treatment of groundwater over the short-term. Some combination of bioremediation-enhancing technologies should be employed where effective based on pilot studies, to be employed using existing wells prior to implementation of bioventing network coming online. This could include AS/SVE and/or injection of oxidizing or nutrient enriching compounds to accelerate degradation. This could significantly reduce the time-frame required to achieve groundwater remediation goals. We support more robust short-term solutions, especially in areas where existing monitoring wells show the highest levels of LNAPL and where risks from leaching to groundwater from the deep subsurface/smear zone exist.

DEQ Response: The LNAPL thicknesses at the Facility have reduced considerably through time, such that the current measurable LNAPL extent is much smaller than it used to be. As a result, the majority of the LNAPL to be addressed through the selected remedy is residual LNAPL present in the footprint of the historic LNAPL plume. The majority of the groundwater plume has historically been and remains centered over the BNSF-owned property, with small areas extending to the south and southwest off of BNSF's property. The off-railyard concentrations have continued to decrease through time as LNAPL has been reduced, with the June 2020 (high water) data showing no off-railyard property exceedances, and the March 2021 (low water) data showing limited off-railyard exceedances. There are no public water supply wells being impacted by the contamination at the Facility, nor are there groundwater wells in use on or adjacent to the Facility that are currently impacted or at risk of impact from the groundwater contamination. CECRA's remedy selection criteria include a cost effectiveness criterion which requires that cost effectiveness be determined through an analysis of incremental costs and incremental risk reduction, taking in the total anticipated short-term and long-term costs of alternatives. Use of air sparge/soil vapor extraction (AS/SVE) or injections of oxidizing compounds were considered in the alternatives evaluation. However, these alternatives would add significant additional cost with little additional risk reduction in the long-term. These alternatives may achieve SSCLs in a shorter timeframe, although this is not guaranteed as they too have a limit to how much they can reduce the contamination before natural processes are

used to “polish” or complete the cleanup. However, the need for rapid reduction of groundwater concentrations in the short term is less significant at this Facility given that the direct impacts to offsite receptors are minimal and the groundwater concentrations and extent are actively reducing and will continue to do so under the selected remedy.

Comment 35: Based on recent and historical patterns of development in the area surrounding the Facility, there can be no doubt that if BNSF and MRL ever decide to divest themselves of any portion of the onsite Facility, or to lease or sublease portions of the onsite Facility, the most likely use for the relevant lands will be for residential development. The only element that would prevent this use would be DEQ’s decision to artificially limit the availability of that use by not requiring cleanup to residential standards. It would be a shame for Missoula if the many City planning documents calling for mixed residential use in this area are thwarted because DEQ fails to require adequate cleanup.

DEQ Response: Please see Response to Comment No. 1 for an analysis of the reasonably anticipated future use of the onsite property at the Facility. DEQ is statutorily required to select a remedy consistent with the reasonably anticipated future use of property within the Facility, and CECRA identifies what criteria must be considered in making that determination. In addition, master plans are not regulatory documents and do not supersede state law. MRL has a long-term lease for the onsite property; BNSF has indicated no desire to sell its property and, if it did, it would be required to undergo approval by a federal agency. Based on this information, the reasonably anticipated use of the onsite portion of the Facility is commercial/industrial. Please also see Response to Comment No. 42.

Comment 36: The Proposed Plan, at page 19, states that on site, “historically, the Facility has been primarily used for commercial/industrial purposes.” Please verify the accuracy of this statement over the entire onsite Facility. It is not clear to a casual observer that substantial portions of the railyard, such as the southeastern corner roughly east of Washington Street (including the former Eastern Fueling Area), or portions adjacent to North 2nd Street East and the residential developments on the south side of North 2nd Street East, are currently in use. If these areas are not currently used by MRL or BN, then it would be more accurate to acknowledge that substantial portions of the onsite Facility have been vacant and largely unused for much of the Facility’s recent history. If a substantial portion of the Facility is not currently used for commercial/industrial uses, the statement that these unused portions of the railyard will “continue” to be used for “the existing commercial/industrial uses in the future” is not accurate.

DEQ Response: Historically the onsite property has been used or held for use as commercial/industrial. Even if these areas are not currently home to existing structures, they are still owned by BNSF and considered to be part of the active railyard.

Comment 37: The City requests that DEQ more accurately characterize the present and recent use of the Facility. In order to do so, it may be necessary to bifurcate the portions of the onsite Facility that remain in use as a working railyard from those areas that have not been recently

used as part of the railyard operations. The recharacterization of the Facility in a way that reflects recent history should be incorporated into your reevaluation of reasonably anticipated future uses of the Facility.

DEQ Response: Please see Response to Comment No. 1 regarding the reasonably anticipated future use of the onsite portion of the Facility. To the extent that the comment is suggesting the Facility be bifurcated in a manner similar to the MWPS Facility, please see Response to Comment No. 19. Please also see Response to Comment No. 36 for a discussion about historical and recent use of areas of the Facility.

Comment 38: DEQ's focus on the pattern of development within the Facility as part of the review under 75-10-701(18)(c) is misplaced, and unreasonably changes the calculus set up by the legislature. The focus for the inquiry under subsection (c) is on the immediate area around the Facility, not inside the Facility, and the Proposed Plan should revise this discussion to account for this important distinction. Looking at the pattern of development within the Facility simply, and without statutory support, duplicates the evaluation completed pursuant to subsection (b). Patterns of development in the immediate area surrounding the Facility have *not* been primarily commercial/industrial. In Attachment B to this letter, I have provided a map of land use within 300 feet of the Facility boundary. It is clear that residential development is as prevalent in the immediate vicinity of the Facility, as is commercial/industrial use. Additionally, the Proposed Plan implies on page 19 that residential development in the immediate vicinity of the railyard occurs only to the southwest of the railyard. As is evident from Attachment B, residential development occurs around the Facility in every direction except where Interstate 90 and Rattlesnake Creek make any development impossible and in the central business district surrounding Higgins Avenue. The City requests that DEQ eliminate consideration of the current use of the Facility when evaluating patterns of development in the immediate area under 75-10-701(18)(c), MCA; DEQ's inclusion of the facility violates both the letter and spirit of the statute. Please revise the document to state that residential development occurs in multiple directions in the immediate vicinity surrounding the Facility. Please reevaluate reasonably anticipated future uses of the Facility in light of these important distinctions and corrections.

DEQ Response: In the ROD, DEQ evaluated the residential development within and surrounding the Facility. DEQ disagrees that evaluation of the "immediate area" prohibits considering patterns of development of Facility property as well. At the BN Missoula Facility, the onsite portion of the Facility is and had been commercial/industrial for almost 140 years. In responding to this comment, DEQ has included additional discussion regarding the presence of residential development in the vicinity of the railyard in the text of Part 2 of the ROD.

Comment 39: Local planning officials and City Council-adopted planning documents explicitly state that the anticipated land use of substantial portions of the railyard is residential development. Including the acknowledgments that this will be challenging in the Proposed Plan does not in any way improve understanding of relevant indications of anticipated land use from local planning officials, which is unambiguously that the portion of the railyard north of the main

tracks will include residential. Instead, it appears to be an attempt by DEQ to substitute its own judgement about anticipated future use for that of local planning officials. DEQ accepts anticipated future use statements by BNSF and MRL at face value; local planning officials demand the same courtesy. Please strike the acknowledgements of complexity from your Final Plan and reconsider your conclusions regarding reasonably anticipated future uses accordingly.

DEQ Response: Please see Response to Comment No. 1 regarding the reasonably anticipated future use of the onsite portion of the Facility. DEQ considered relevant indications from local planning officials. However, DEQ must also consider those same indications from the property owner, who ultimately controls the disposition and use of the property. While DEQ has considered the City's desires regarding future residential use of BNSF's property, inserting an assumption that BNSF may divest itself of its owned property when it has given no indication that it intends to do so, or treating the master plan as a regulation when it is not, would be drawing conclusions without a factual basis.

Comment 40: It may be that reasonably anticipated future uses of the Facility vary across the onsite Facility. If this is the case, the City urges DEQ to consider the different areas of the Facility separately. For example, the tracks and fueling and office infrastructure on the south side of the tracks may merit a different determination in this regard than would land north of the tracks. The City anticipates that in the future residential use will predominate in the onsite Facility north of the main tracks, as illustrated in the Downtown Master Plan.

DEQ Response: Please see Response to Comment No. 1 regarding the reasonably anticipated future use of the onsite portion of the Facility. Any change in future use in the onsite portions of the Facility would involve BNSF divesting itself of some of its property, something that it both has indicated no intention of doing and that would likely require action by the STB. Please also see Response to Comment No. 3 regarding the City's Master Plan.

Comment 41: Some of the most prized greenspace in Missoula is former railroad. I have no doubt that at any point prior to its 1977 bankruptcy the Chicago, Milwaukee, St. Paul and Pacific Railroad (the Milwaukee Road) would have attested that its land in Missoula would always be used as railroad. But with bankruptcy the Milwaukee Road began liquidating its assets. Acquisition and redevelopment of Milwaukee Road holdings along the Clark Fork was not easy, requiring the goodwill of local investors to serve as interim owner; passage of an open space bond by the citizens of Missoula; agreement by the Court overseeing dissolution of the Milwaukee Road; collaboration among the City, Missoula County Public Schools and the University of Montana; and more. But today the former Milwaukee Road is part of Missoula's prized south riverfront park, Hellgate High School's physical education fields and the University of Montana's practice and intramural fields.

DEQ Response: Comment noted; DEQ must evaluate the reasonably anticipated future use of the Facility according to the statutory requirements of CECRA with the information currently available. Please see Response to Comment No. 1.

Comment 42: In selecting a remedial action DEQ must consider present and reasonably anticipated future uses under 75-10-721(2)(c), MCA. However, DEQ must also consider the acceptability of the actions to the affected community as indicated by the local government, as well as the local community. See 75-10-721(3), MCA. The City of Missoula will consider unacceptable any proposed remedial plan that limits onsite Facility cleanup levels to commercial/industrial and thereby a) vastly complicates residential redevelopment, and b) transfers the expense of full cleanup from the responsible party to a future developer. The City's planning documents clearly support increased residential use in this area. The City's Housing Plan calls for increased housing density in the urban core, including the area making up the Facility. Indeed, developers are presently developing available land surrounding the Facility for use as higher density residential development. DEQ must not artificially limit the use of the entire Facility for future residential use by making unreasonable assumptions in the proposed plan. In the event BNSF and MRL decide to divest themselves of any portion of the Facility, or to lease or sublease portions of the property, the City and the local community strongly desire that the land be available for residential use. Thus, any action that forecloses this opportunity will be unacceptable.

DEQ Response: While CECRA requires that DEQ consider the acceptability of the remedy to community members and local government, that consideration does not negate the requirement that DEQ also comply with the other statutory criteria in remedy selection. DEQ's consideration of community support is an important factor in DEQ's decision-making regarding selection of a final remedy. Please see Response to Comment No. 1 regarding the reasonably anticipated future use of the onsite portion of the Facility. Finally, if circumstances change in the future and BNSF desires to divest itself of its property or otherwise allow residential use, there is a process for revising the final remedy to ensure the use of the property is protective for the new proposed use. In that case, DEQ generally follows the procedures outlined in EPA's Guide to Preparing Superfund Proposed Plans, Records of Decisions, and Other Remedy Selection Decision Documents. This process allows for a review of the protectiveness of the remedy, including an evaluation of SSCLs and whether additional remediation is necessary for the new proposed use.

Comment 43: If DEQ is not ready to conclude that residential use is a reasonably anticipated future use for all or at least a portion of the Facility, then I suggest that the agency consider stipulating a delay to completing the surface soil portion of the Record of Decision. Delaying the record of decision relative to surface soil would not impact the Proposed Plan since, as it stands, the Proposed Plan will do nothing relative to surface soil. Accordingly, DEQ could consider suspending judgement on reasonably anticipated future uses for five years and return to this issue when there may be more evidence one way or another to make such a determination.

DEQ Response: There is no basis to delay issuance of the ROD and DEQ evaluated the reasonably anticipated future use of the Facility according to the statutory requirements of CECRA with the information currently available. Please see Response to Comment No. 1.

However, if in the future there is a need to review the remedy because of changed circumstances, DEQ will follow the process outlined in Response to Comment No. 42.

Comment 44: I ask that you pay particular attention to the following of the DEQ's seven criteria when choosing how to clean up the railyard: protect public health, safety, and welfare and the environment; and demonstrate mitigation of exposure to unacceptable risks to public health, safety, welfare and the environment.

DEQ Response: Comment noted. In selecting the remedy, DEQ applied the remedy selection criteria set forth in Section 75-10-721, MCA.

Comment 45: The fact that BNSF was originally funded by massive Federal land grants when the line through my neighborhood was built; and that over the years the railroad has unethically profited mightily from the sale of that land; there is no reason on earth to not clean up their yard to residential standards. The government subsidized BNSF, the company broke the agreement of that subsidy, therefore they should be made to pay the FULL cost of their pollution in my neighborhood. Thank you.

DEQ Response: Please see Response to Comment No. 16 regarding BNSF's responsibility for paying for the remediation of the Facility.

Tables

Table 1
Contaminants of Concern in Groundwater and Site-Specific Cleanup Levels

Contaminant of Concern (COC)	Site-Specific Cleanup Level (SSCL)	Rationale for Cleanup Level Selection		
		DEQ-7 Standard ^(a)	Risk-Based Screening Level ^(b)	EPA Maximum Contaminant Level ^(c)
Groundwater (µg/L)				
Acenaphthene	10	X		
Arsenic	10	X		X
Trichloroethene (TCE)	5	X		X
Benzo(a)anthracene	0.5	X		
Benzo(a)pyrene	0.05 ^(e)	X		0.2 ^(e)
Benzo(b)fluoranthene	0.5	X		
bis(2-ethylhexyl) phthalate	6	X		X
C9-C18 Aliphatics	1,400		X	
C19-C36 Aliphatics	1,000		X	
C11-C22 Aromatics	1,100		X	
Dibenzo(a,h)anthracene	0.05	X		
Fluorene	50	X		
1-Methylnaphthalene	11		X	
n-Nitrosodimethylamine	0.0069	X		
Free-Product/Light Non-Aqueous Phase Liquids (LNAPL)				
Free-product ^(d)	Maximum Extent Practicable			

Notes:

µg/L = micrograms per liter

(a) DEQ-7 Standards are provided in Circular DEQ-7 Montana Numeric Water Quality Standards, Montana Department of Environmental Quality, dated June 2019.

(b) Risk-based screening levels (RBSLs) are provided in Montana Risk-Based Corrective Action Guidance for Petroleum Releases, dated May 2018.

(c) Maximum Contaminant Levels (MCLs) are provided in the National Primary Drinking Water Regulations, Environmental Protection Agency (EPA), May 2009.

(d) 40 CFR 280.64 and ARM 17.56.607 require removal of free-product to the maximum extent practicable, determined by DEQ to be 1/8 inch or less.

(e) DEQ-7 standards are either the same as or lower than the EPA MCLs, so in this case, the DEQ-7 standard is used as the SSCL and is lower than the EPA MCL.

Table 2
Contaminants of Concern in Soil and Site-Specific Cleanup Levels

Contaminant of Concern (COC)	Site-Specific Cleanup Level (SSCL)	Rationale for Cleanup Level Selection	
		Residential SSCL ^(a)	Leaching-Based SSCL ^(b)
Offsite Surface Soil (mg/kg)			
Total cPAH ^(c)	1.7 ^(d)	X	
Onsite Surface Soil (mg/kg) ^(e)			
Bromomethane	0.984 ^(f)		X
Tetrachloroethene (PCE)	18.9 ^(f)		X
Trichloroethene (TCE)	19.5 ^(f)		X
3,3'-dichlorobenzidene	3.36 ^(f)		X
2,4-dinitrotoluene	2 ^(f)		X
2,6-dinitrotoluene	0.661 ^(f)		X

Notes:

mg/kg = milligrams per kilogram

(a) Residential Soil Site-Specific Cleanup Level (SSCL) for offsite residential surface soils, per Technical Memorandum for Updated Benzo(a)pyrene Toxicity Values and New Site-Specific Cleanup Levels dated March 7, 2017.

(b) Leaching-based SSCLs for onsite surface soils, per Final Chemical Fate and Transport Analysis, dated June 2, 2014.

(c) Total carcinogenic polynuclear aromatic hydrocarbons (cPAH) SSCL calculated based on the relative toxicity of individual cPAHs to benzo(a)pyrene using USEPA published toxicity values.

(d) The SSCL for offsite residential surface soils is included; however, there are no known exceedances of the SSCL in offsite residential areas of the Facility and no cleanup is identified to meet this SSCL.

(e) Screening of onsite surface soils against residential screening levels was performed in Table 4 of the BRA (dated June 2015). The screening identified exceedances of residential screening levels and the BRA noted that if DEQ selected residential land use, additional evaluation and calculation of SSCLs would be needed. Since the reasonably anticipated future land use is commercial/industrial, SSCLs for residential were not calculated.

(f) The leaching-based SSCLs for onsite surface soil are included; however, there are no identified exceedances of these SSCLs in onsite surface soils at the Facility and no cleanup is identified to meet these SSCLs.

Table 3
Comparative Analysis of Alternatives

Alternatives	Protectiveness	Compliance with ERCLs	Mitigation of Risk	Effectiveness and Reliability	Practicability and Implementability	Treatment or Resource Recovery Technologies	Present Cost (Cost Effectiveness)
1 - No Further Action	No	No	No	No	Yes	No	\$0
2 - Bioventing	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes	Yes	\$2,021,000
3 - NSZD	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes	No (uses natural processes)	\$329,000
4 - Bioslurping/EFR and VEDPE ^(a)	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (in combination)	Implementable but may not be practicable (WFA only)	Yes	\$2,949,000
5 - Passive and Active Skimming	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (in combination)	Implementable but active skimming may not be practicable	Yes	\$236,000
6 - MNA	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes	No (uses natural processes)	\$330,000
7 - In Situ Bioremediation	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (where infrastructure allows)	Yes	\$1,766,000
8 - AS/SVE ^(b)	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (regional aquifer only)	Yes	\$2,318,000
9 - In Situ Chemical Oxidation	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (in combination)	Yes (where infrastructure allows)	Yes	\$6,924,000

Notes:

(in combination) = alternative does not meet criteria alone, but meets criteria when combined with one or more other alternatives.

AS/SVE = air-sparge/soil vapor extraction

ERCLs = Environmental Requirements, Criteria, or Limitations

EFR = enhanced fluid recovery

LNAPL = light non-aqueous phase liquid

MNA = monitored natural attenuation

NSZD = natural source zone depletion

VEDPE = vacuum-enhanced dual-phase extraction

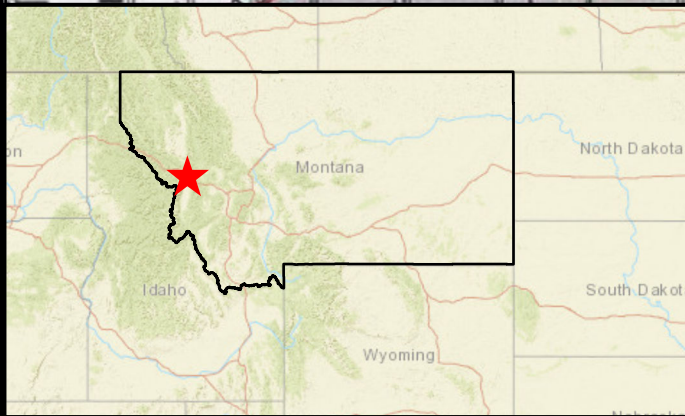
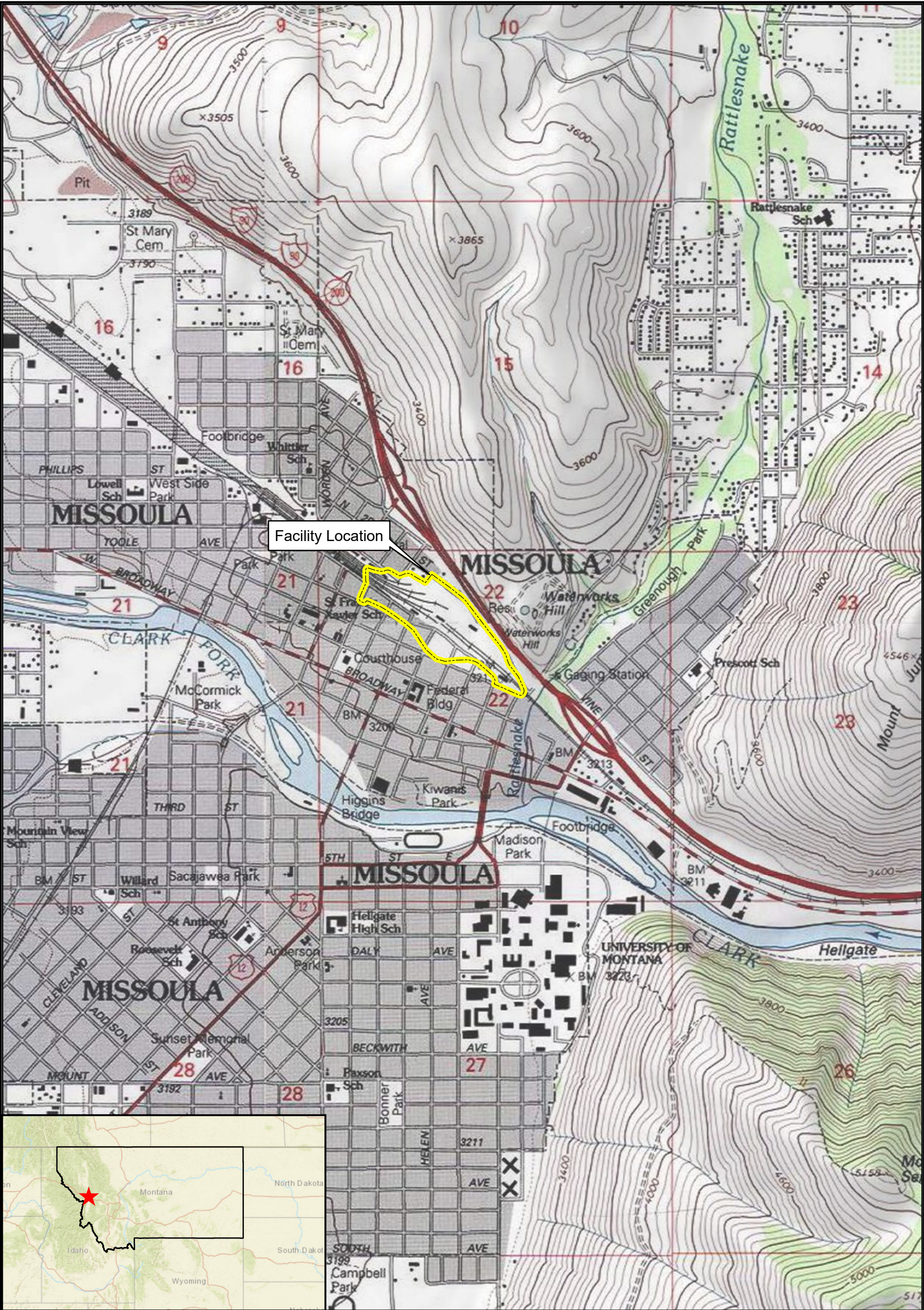
(a) The bioslurping/EFR and VEDPE alternative is applicable to the WFA regional aquifer and the perched zone only.

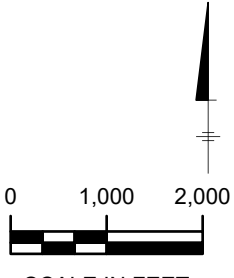
(b) The AS/SVE alternative is applicable to the WFA and EFR regional aquifer only

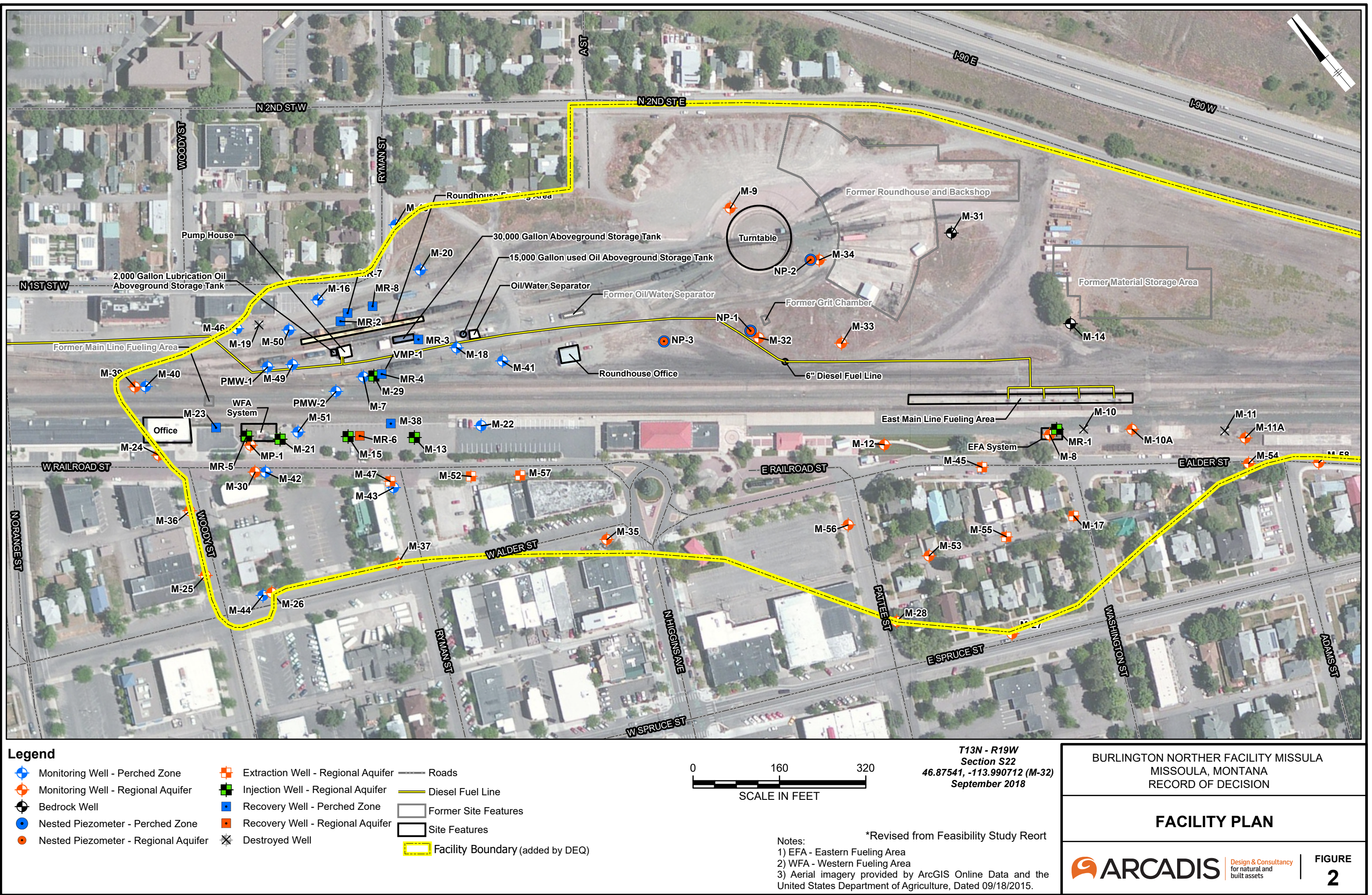
(c) These alternatives are only applicable to onsite surface soil exceeding residential screening levels. Since DEQ has identified the reasonably anticipated future land use of the onsite (railyard) portion of the Facility (onsite property) as commercial/industrial use and no other Facility surface soils exceed SSCLs, it is not necessary to select a preferred remedy for onsite surface soils.

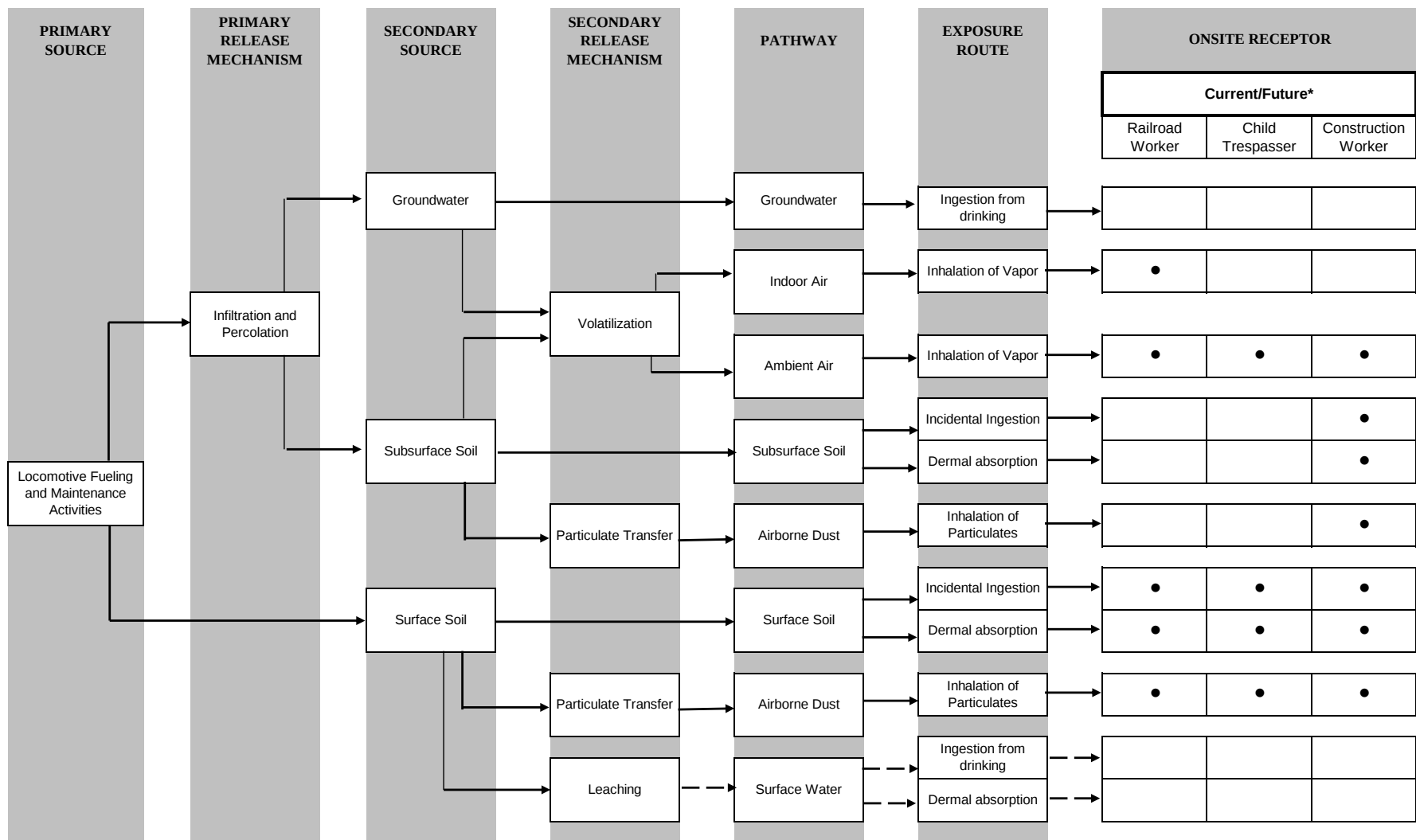
(d) This remedial alternative would require disrupting railyard operations to address all applicable contamination in the surface soil.

Figures



LEGEND *Revised from Feasibility Study Report	BURLINGTON NORTHER FACILITY MISSOULA MISSOULA, MONTANA RECORD OF DECISION	
 Facility Boundary	FACILITY LOCATION MAP	
T13N - R19W Section S22 46.87541, -113.990712 (M-32) September 2018 Imagery Sources: ArcGIS Online Data (See Service Layer Credits below)	 0 1,000 2,000 SCALE IN FEET	 ARCADIS Design & Consultancy for natural and built assets
		FIGURE 1

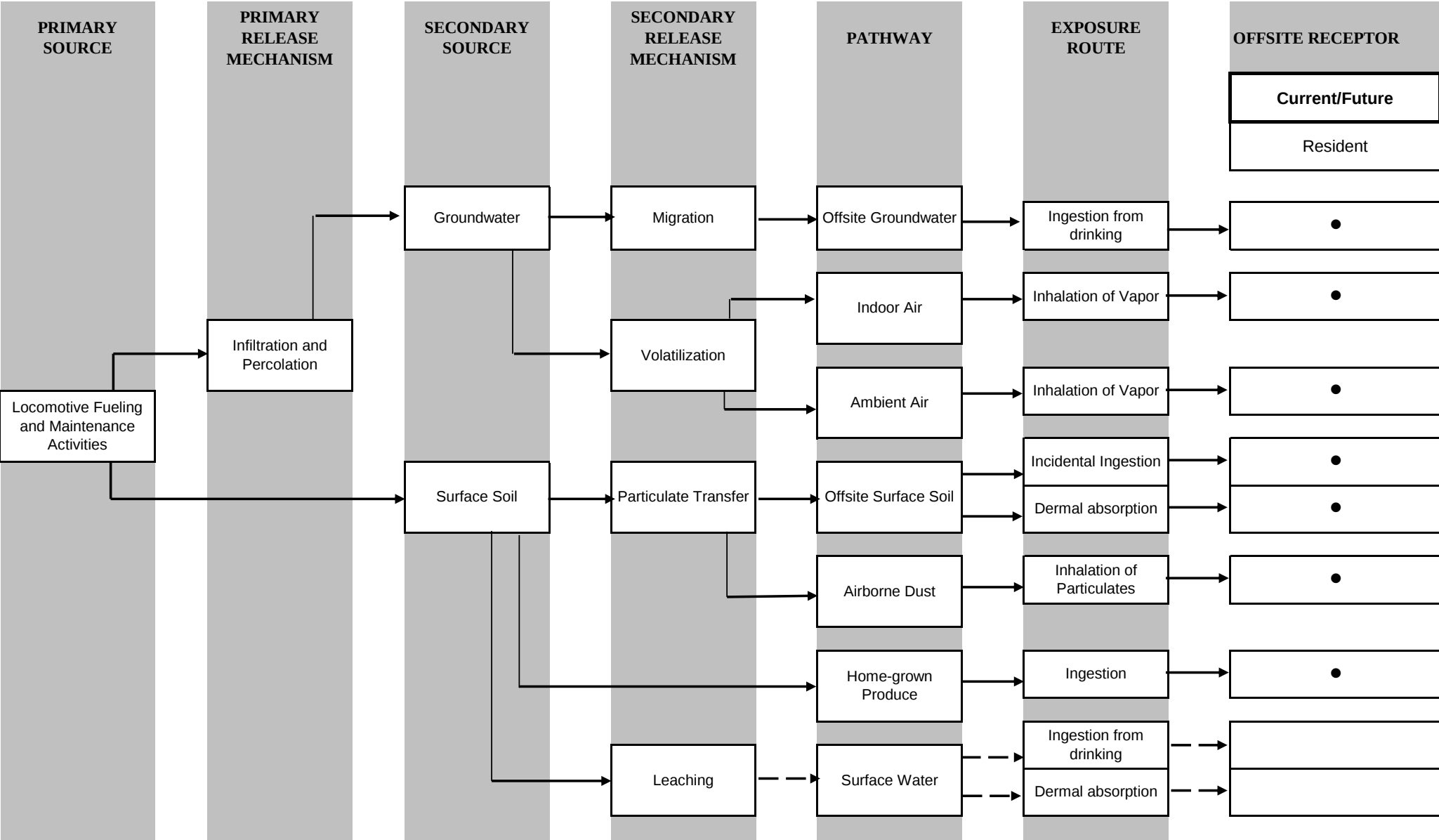




- Potentially complete pathway for receptor
- Complete Pathway
- - - Incomplete Pathway

* - Although not included in this figure, onsite residential exposure to contaminated surface soils is considered to be a complete pathway based on identified exceedances of residential screening levels.

RECORD OF DECISION
Figure 3
Site Conceptual Exposure Model - Onsite



● Potentially complete pathway for receptor

————→ Complete Pathway

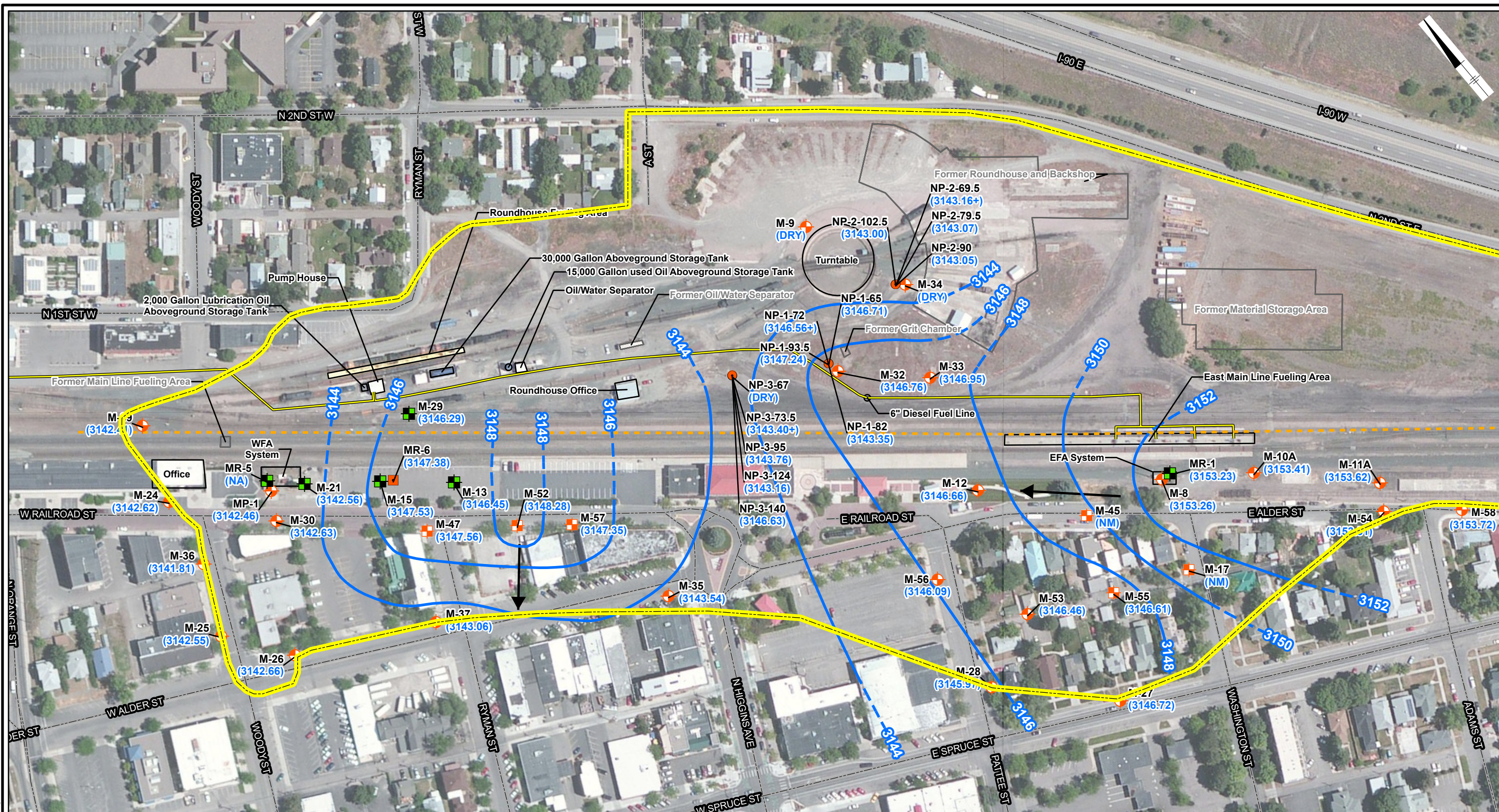
- - - - -→ Incomplete Pathway

RECORD OF DECISION

Figure 4

Site Conceptual Exposure Model - Offsite

City: Div/Group: Created By: Last Saved By: CB5530
Project (Project #): L:\REM\CB5530\Scratch\BN_Missoula_Diagrams.aprx 1/11/2021 7:58 AM



Legend

- | | | |
|--------------------------------------|---|--|
| Monitoring Well - Regional Aquifer | Fiber Optic (Sprint) | Indicates Screen Elevation in Nested Well That Was Used For Contouring |
| Nested Piezometer - Regional Aquifer | Roads | NM Not Measured |
| Extraction Well - Regional Aquifer | Diesel Fuel Line | M-35 Well ID |
| Injection Well - Regional Aquifer | Groundwater Elevation Contour (Dashed Where Inferred) | |
| Recovery Well - Regional Aquifer | Approximate Groundwater Flow Direction | |
| Site Features | Facility Boundary (added by DEQ) | |
| Former Site Features | (3143.54) Groundwater Elevation (ft above NAVD88) | |

0 160 320
SCALE IN FEET

T13N - R19W
Section S22
46.87541, -113.990712 (M-32)
September 2019

Notes: *Revised From Feasibility Study Report
1) EFA - Eastern Fueling Area
2) WFA - Western Fueling Area
3) NAVD88 - North American Vertical Datum of 1988
4) Aerial imagery provided by ArcGIS Online Data and the United States Department of Agriculture, Dated 09/18/2015.

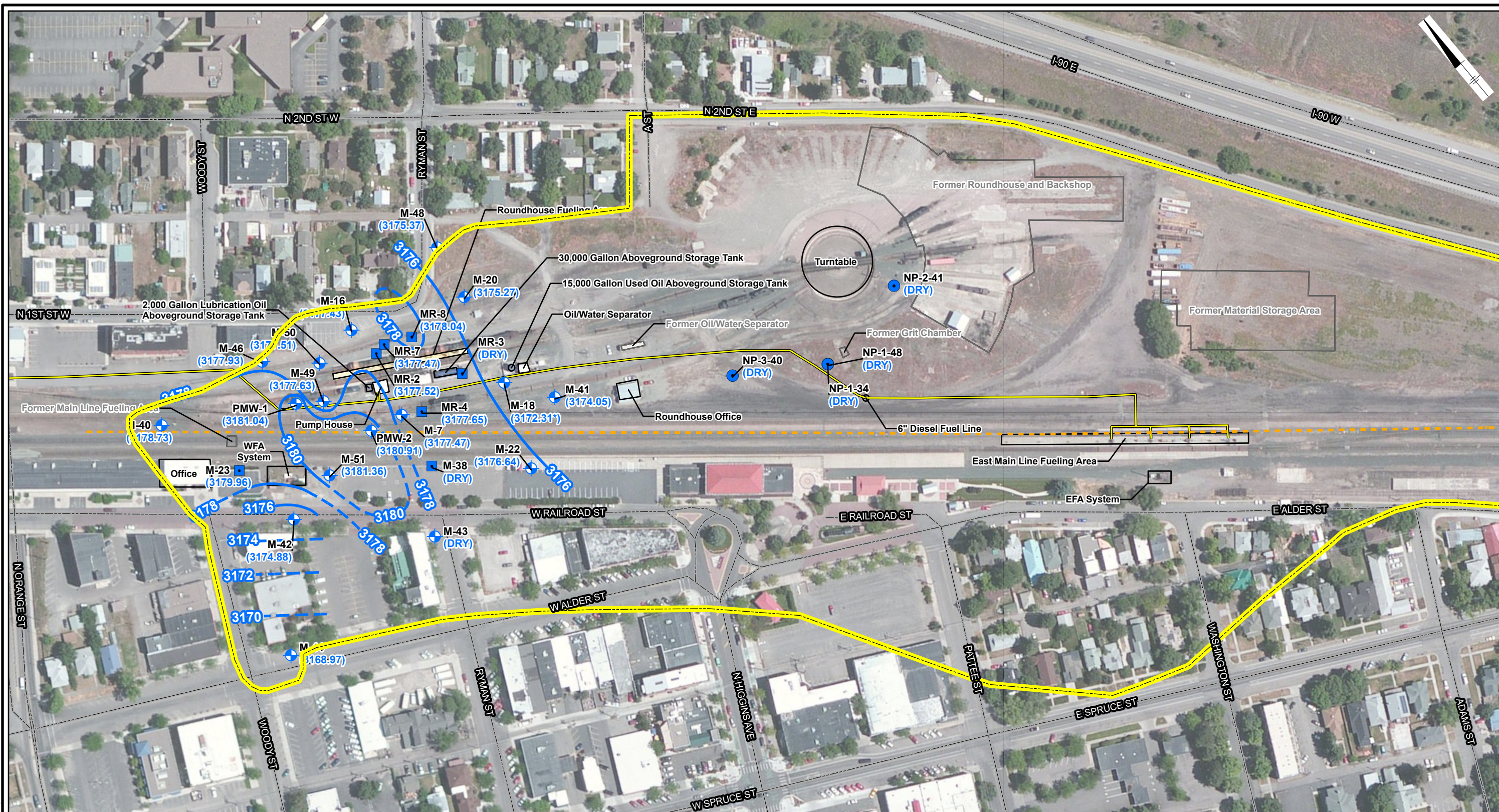
BURLINGTON NORTHERN FACILITY MISSOULA
MISSOULA, MONTANA
RECORD OF DECISION

POTENTIOMETRIC SURFACE CONTOURS,
REGIONAL AQUIFER - APRIL 2019

ARCADIS
Design & Consultancy
for natural and built assets

FIGURE
5

City: Div/Group: Created By: Last Saved By: CB5530
Project (Project #) L:\REM\CB5530\scratch\BN_Missoula_Diagrams.aprx 1/11/2021 8:06 AM



Legend

- Monitoring Well - Perched Zone
- Nested Piezometer - Perched Zone
- Recovery Well - Perched Zone
- Site Features
- Former Site Features
- Fiber Optic (Sprint)
- Roads
- Diesel Fuel Line
- Groundwater Elevation Contour (Dashed Where Inferred)
- Facility Boundary (added by DEQ)
- * Groundwater Elevation Not Used For Contouring
- (3168.97) Groundwater Elevation (ft above NAVD88)
- M-44 Well ID



T13N - R19W
Section S22
46.87541, -113.990712 (M-32)
September 2019

Notes:
1) EFA - Eastern Fueling Area
2) WFA - Western Fueling Area
3) NAVD88 - North American Vertical Datum of 1988
4) Aerial imagery provided by ArcGIS Online Data and the United States Department of Agriculture, Dated 09/18/2015.

*Revised from feasibility study report

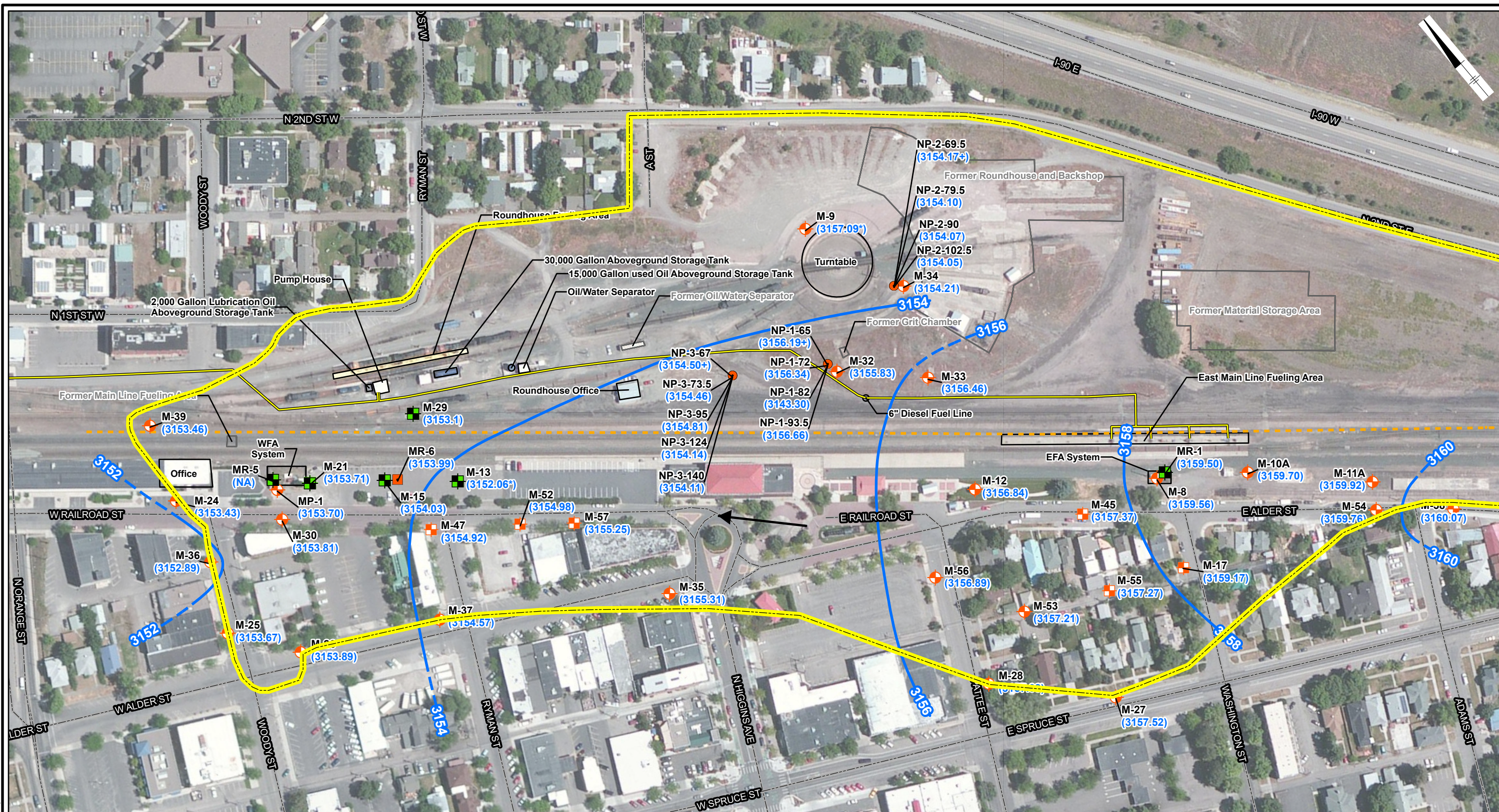
BURLINGTON NORTHERN FACILITY MISSOULA
MISSOULA, MONTANA
RECORD OF DECISION

POTENTIOMETRIC SURFACE CONTOURS,
PERCHED ZONE - APRIL 2019

ARCADIS
Design & Consultancy
for natural and
built assets

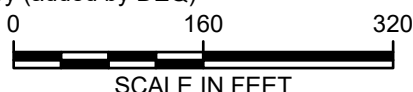
FIGURE
5b

City: Div/Group: Created By: Last Saved By: CB5530
Project (Project #): L:\REM\CB5530\scratch\BN_Missoula_Diagrams.aprx 1/11/2021 8:09 AM



Legend

- Monitoring Well - Regional Aquifer
- Nested Piezometer - Regional Aquifer
- Extraction Well - Regional Aquifer
- Injection Well - Regional Aquifer
- Recovery Well - Regional Aquifer
- Site Features
- M-35 Well ID
- Former Site Features
- Fiber Optic (Sprint)
- Roads
- Diesel Fuel Line
- Groundwater Elevation (ft above NAVD88)
- Approximate Groundwater Flow Directions
- Indicates Screen Elevation in Nested Well That Was Used For Contouring
- Groundwater Elevation Not Used For Contouring
- (3155.31) Groundwater Elevation (ft above NAVD88)
- Facility Boundary (added by DEQ)



T13N - R19W
Section S22
46.87541, -113.990712 (M-32)
September 2019

Notes:
1) EFA - Eastern Fueling Area
2) WFA - Western Fueling Area
3) NAVD88 - North American Vertical Datum of 1988
4) Aerial imagery provided by ArcGIS Online Data and the United States Department of Agriculture, Dated 09/18/2015.

*Revised from feasibility study report

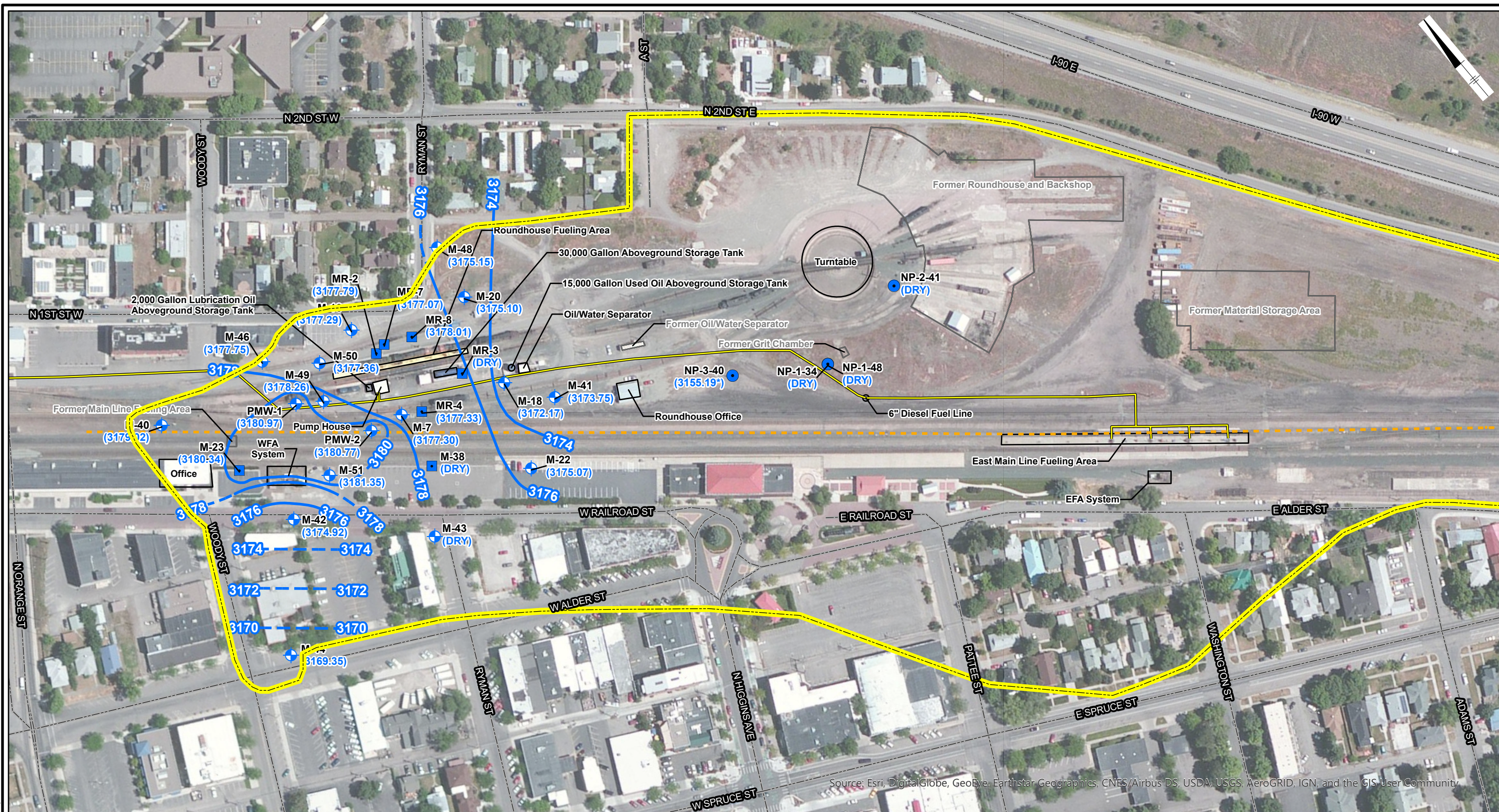
BURLINGTON NORTHERN FACILITY MISSOULA
MISSOULA, MONTANA
RECORD OF DECISION

POTENTIOMETRIC SURFACE CONTOURS, REGIONAL AQUIFER - JUNE 2019

ARCADIS
Design & Consultancy
for natural and
built assets

FIGURE
6a

City: Div/Group: Created By: Last Saved By: CB5530
Project (Project #): L:\REM\CB5530\scratch\BN_Missoula_Diagrams.aprx 1/11/2021 8:09 AM



Legend

- | | | |
|----------------------------------|---|---|
| Monitoring Well - Perched Zone | Fiber Optic (Sprint) | Groundwater Elevation Not Used For Contouring |
| Nested Piezometer - Perched Zone | Roads | Facility Boundary (added by DEQ) |
| Recovery Well - Perched Zone | Diesel Fuel Line | |
| Site Features | Groundwater Elevation Contour (Dashed Where Inferred) | |
| Former Site Features | | |
- M-44** Well ID
(3169.35) Groundwater Elevation (ft above NAVD88)

0 160 320
SCALE IN FEET

T13N - R19W
Section S22
46.87541, -113.990712 (M-32)
September 2019

*Revised From Feasibility Report

Notes:
1) EFA - Eastern Fueling Area
2) WFA - Western Fueling Area
3) NAVD88 - North American Vertical Datum of 1988
4) Aerial imagery provided by ArcGIS Online Data and the United States Department of Agriculture, Dated 09/18/2015.

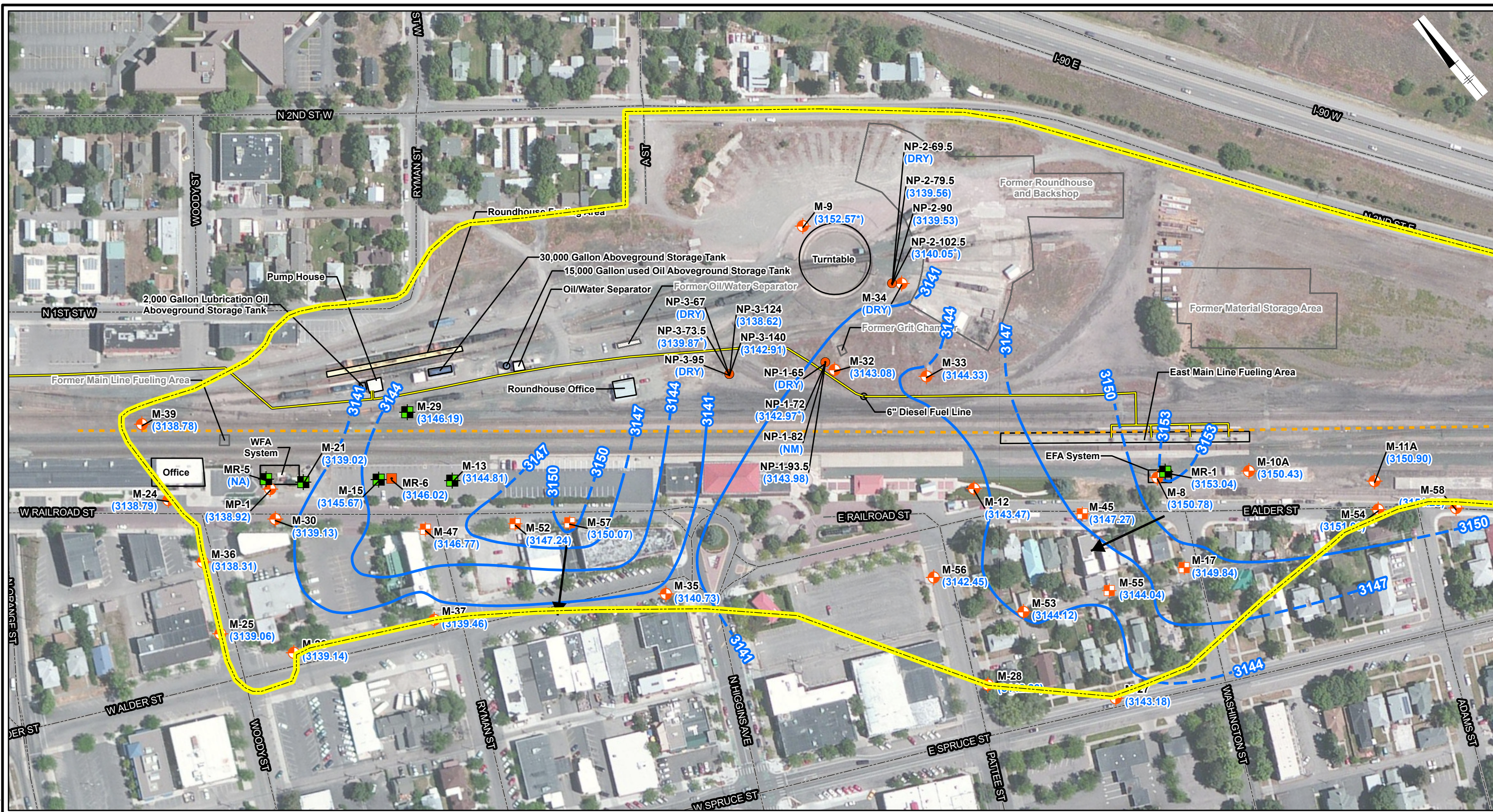
BURLINGTON NORTHERN FACILITY MISSOULA
MISSOULA, MONTANA
RECORD OF DECISION

POTENTIOMETRIC SURFACE CONTOURS,
PERCHED ZONE - JUNE 2019

ARCADIS Design & Consultancy
for natural and built assets

FIGURE
6b

City: Div/Group: Created By: Last Saved By: CB5530
Project (Project #): L:\REM\CB5530\scratch\BN_Missoula_Diagrams.aprx 1/11/2021 8:15 AM



Legend

	Monitoring Well - Regional Aquifer		Fiber Optic (Sprint)
	Nested Piezometer - Regional Aquifer		Roads
	Extraction Well - Regional Aquifer		Diesel Fuel Line
	Injection Well - Regional Aquifer		Groundwater Elevation Contour (Dashed Where Inferred)
	Recovery Well - Regional Aquifer		Approximate Groundwater Flow Direction
	Site Features		Facility Boundary (added by DEQ)
	Former Site Features		Groundwater Elevation (ft above NAVD88)

+ Indicates Screen Elevation in Nested Well That Was Used For Contouring
* Groundwater Elevation Not Used For Contouring
NM Not Measured
NA Not Available

0 160 320
SCALE IN FEET

T13N - R19W
Section S22
46.87541, -113.990712 (M-32)
September 2020

*Revised from Feasibility Study Report

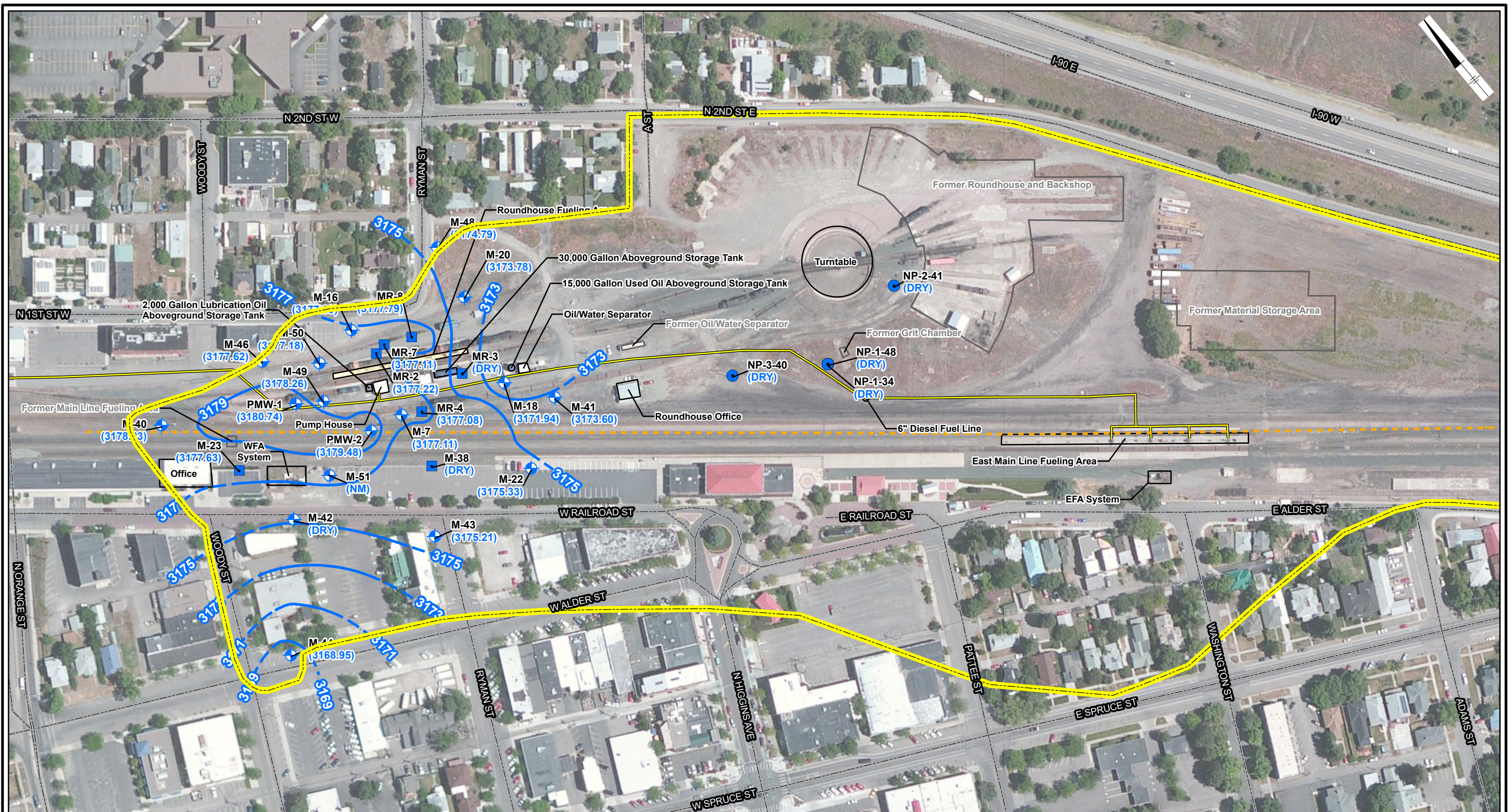
Notes:
1) EFA - Eastern Fueling Area
2) WFA - Western Fueling Area
3) NAVD88 - North American Vertical Datum of 1988
4) Aerial imagery provided by ArcGIS Online Data and the United States Department of Agriculture, Dated 09/18/2015.

BURLINGTON NORTHERN FACILITY MISSOULA
MISSOULA, MONTANA
RECORD OF DECISION

POTENTIOMETRIC SURFACE CONTOURS,
REGIONAL AQUIFER - MARCH 2020

Design & Consultancy
for natural and
built assets

FIGURE
7a



Legend

-  Monitoring Well - Perched Zone
 Nested Piezometer - Perched Zone
 Recovery Well - Perched Zone
 Site Features
 Former Site Features
-  GWElevations_LNAPL2020_March_May
 Roads
 Diesel Fuel Line
 Groundwater Elevation Contour (Dashed Where Inferred)
 Facility Boundary (added by DEQ)
- M-44** Well ID
(3168.95) Groundwater Elevation (ft above NAVD88)
- NM** Not Measured

T13N - R19W
Section S22
46.87541, -113.990712 (M-32)
September 2019

BURLINGTON NORTHERN FACILITY MISSOULA
MISSOULA, MONTANA
RECORD OF DECISION

POTENTIOMETRIC SURFACE CONTOURS, PERCHED ZONE - MARCH 2020

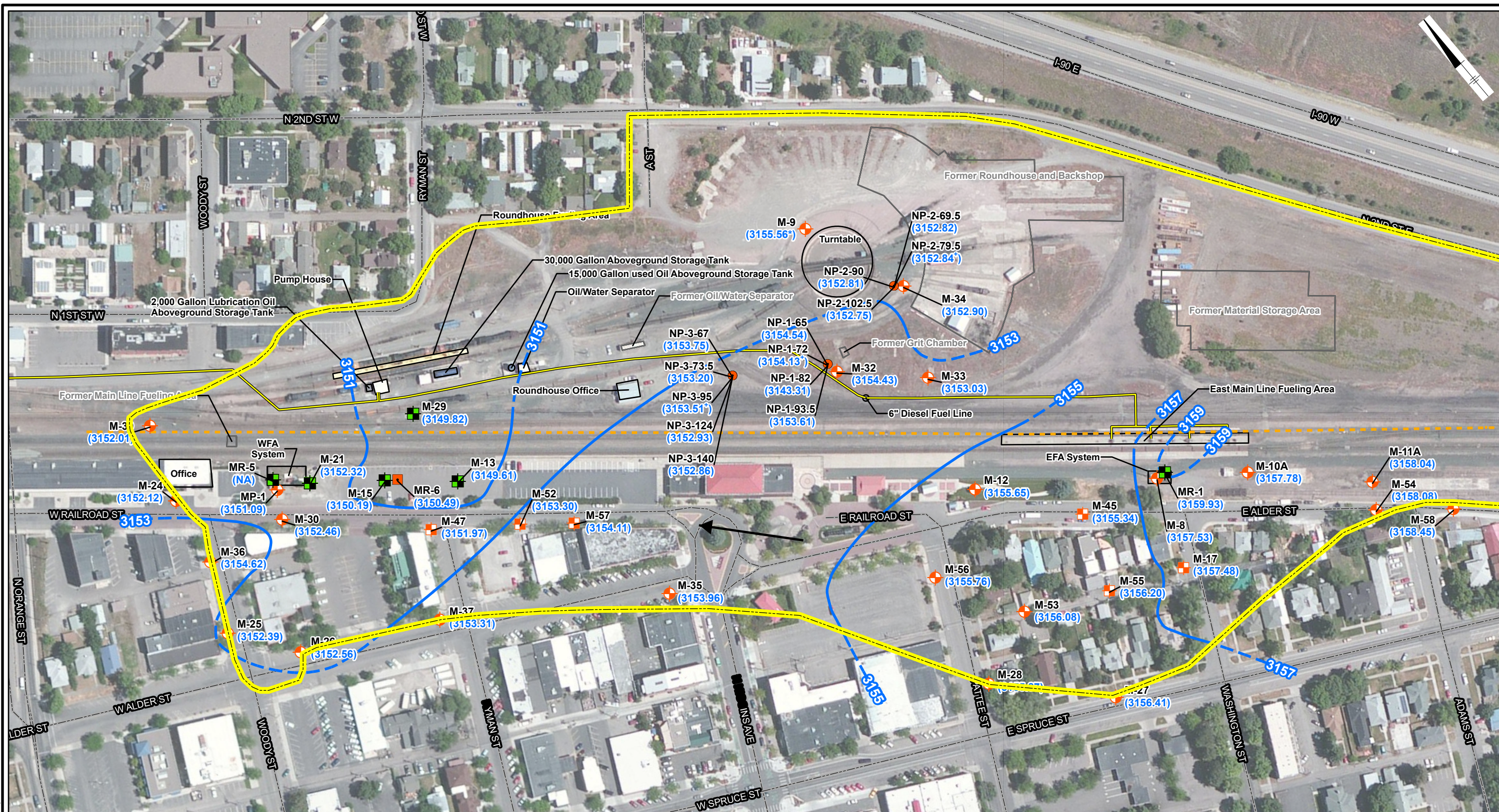


FIGURE 7b

Notes:

- 1) EFA - Eastern Fueling Area
- 2) WFA - Western Fueling Area
- 3) NAVD88 - North American Vertical Datum of 1988
- 4) Aerial imagery provided by ArcGIS Online Data and the United States Department of Agriculture, Dated 09/18/2015.

City: Div/Group: Created By: Last Saved By: CB5530
Project (Project #): L:\REM\CB5530\Scratch\BN_Missoula_Diagrams.aprx 1/11/2021 8:22 AM



Legend

- | | | |
|--------------------------------------|---|--|
| Monitoring Well - Regional Aquifer | Fiber Optic (Sprint) | Indicates Screen Elevation in Nested Well That Was Used For Contouring |
| Nested Piezometer - Regional Aquifer | Roads | Groundwater Elevation Not Used For Contouring |
| Extraction Well - Regional Aquifer | Diesel Fuel Line | NA Not Available |
| Injection Well - Regional Aquifer | Groundwater Elevation Contour (Dashed Where Inferred) | Facility Boundary (added by DEQ) |
| Recovery Well - Regional Aquifer | Approximate Groundwater Flow Direction | Well ID |
| Site Features | | Groundwater Elevation (ft above NAVD88) |
| Former Site Features | | |

0 160 320
SCALE IN FEET
*Revised from Feasibility Study Report

Notes:
1) EFA - Eastern Fueling Area
2) WFA - Western Fueling Area
3) NAVD88 - North American Vertical Datum of 1988
4) Aerial imagery provided by ArcGIS Online Data and the United States Department of Agriculture, Dated 09/18/2015.

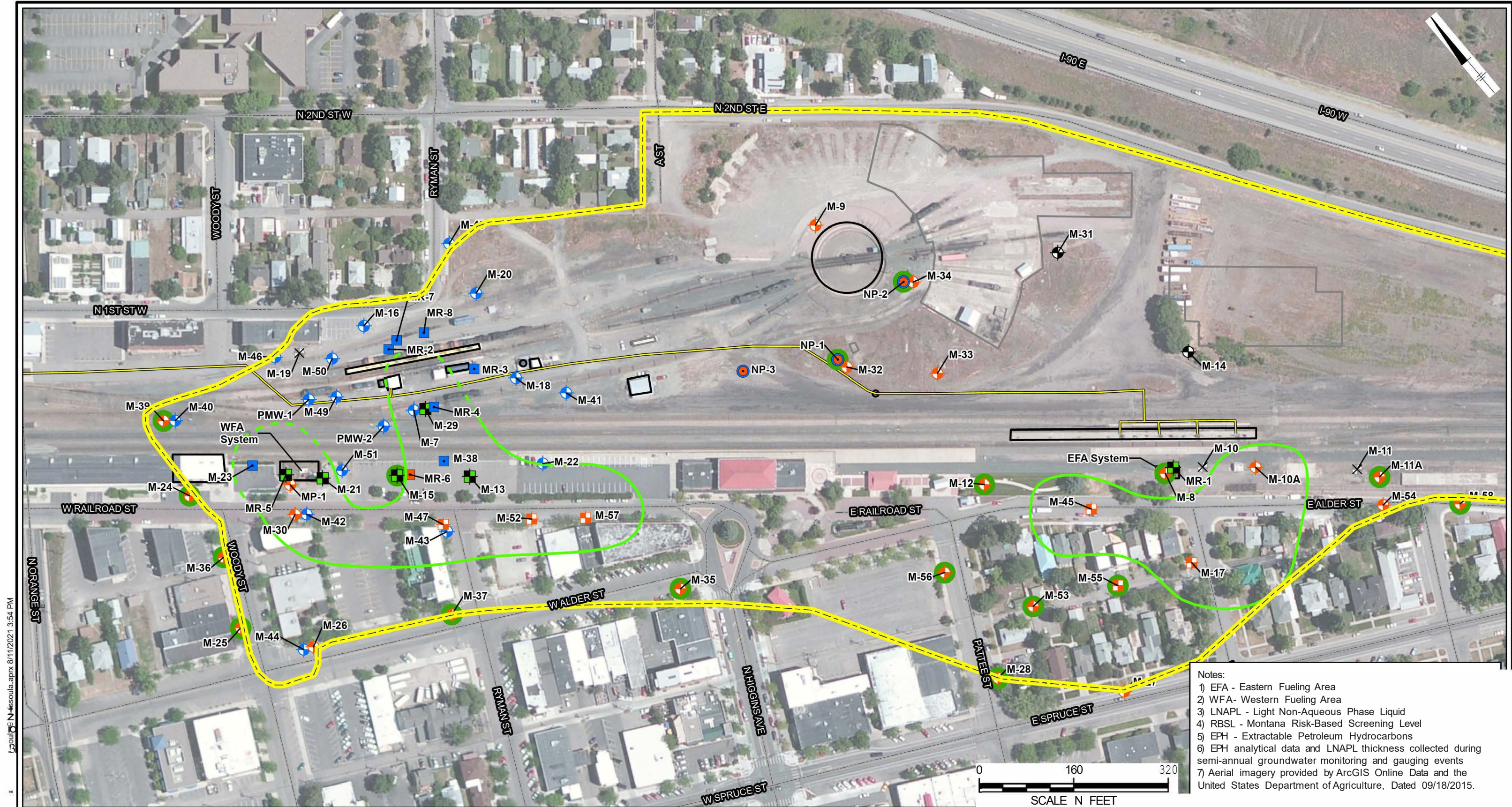
T13N - R19W
Section S22
46.87541, -113.990712 (M-32)
September 2019

BURLINGTON NORTHER FACILITY MISSOULA
MISSOULA, MONTANA
RECORD OF DECISION

POTENTIOMETRIC SURFACE CONTOURS
REGIONAL AQUIFER - JUNE 2020

ARCADIS
Design & Consultancy
for natural and
built assets

FIGURE
8a



Notes:
1) EFA - Eastern Fueling Area
2) WFA- Western Fueling Area
3) LNAPL - Light Non-Aqueous Phase Liquid
4) RBSL - Montana Risk-Based Screening Level
5) EPH - Extractable Petroleum Hydrocarbons
6) EPH analytical data and LNAPL thickness collected during semi-annual groundwater monitoring and gauging events
7) Aerial imagery provided by ArcGIS Online Data and the United States Department of Agriculture, Dated 09/18/2015.

- Legend**
-jcECRA Facility Boundary(added by DEQ)
Monitoring Well - Perched Zone
Monitoring Well - Regional Aquifer
Bedrock Well
Nested Piezometer - Perched Zone
- Nested Piezometer - Regional Aquifer
Extraction Well - Regional Aquifer
Injection Well - Regional Aquifer
Recovery Well - Perched Zone
Recovery Well - Regional Aquifer
Destroyed Well
- Roads
Diesel Fuel Line
Former Site Features
Site Features
- Recent
Recent Monitoring Indicated Results Less than EPH Fractionation RBSLs (2014 to 2018)

*Revised from Feasibility Study Report

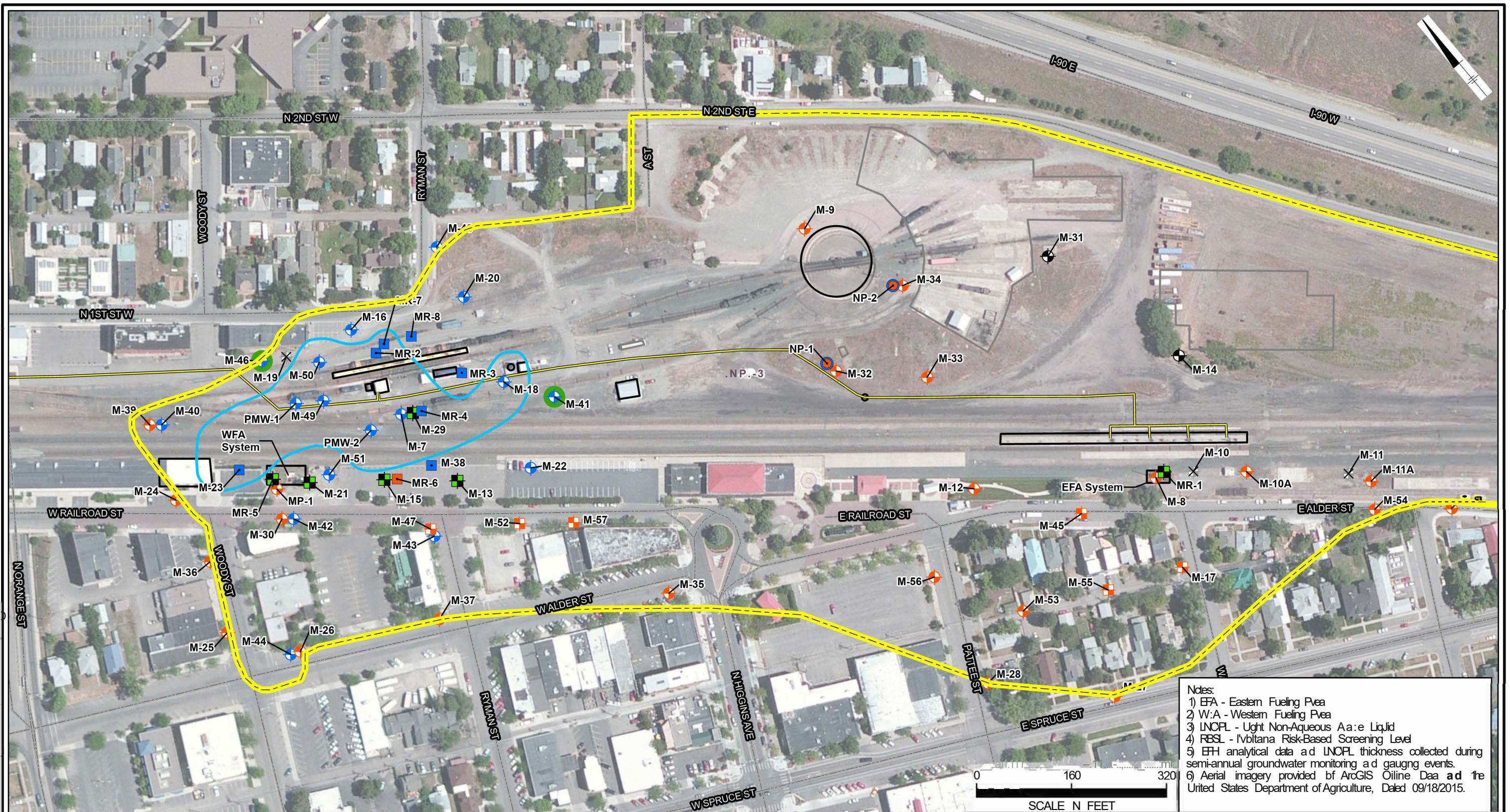
BURLINGTON NORTHERN FACILITY MISSOULA
MISSOULA, MONTANA
RECORD OF DECISION

EPH FRACTIONATION RBSL EXCEEDANCES
IN GROUNDWATER - REGIONAL AQUIFER



T13N-R19W
Section S22
46.87541, -113.990712 (M-32)
September 2019

ARCADIS



Legend

- | | |
|--------------------------------------|------------------------------------|
| Monitoring Well - Perched Zone | Extraction Well - Regional Aquifer |
| Monitoring Well - Regional Aquifer | Injection Well - Regional Aquifer |
| Bedrock Well | Recovery Well - Perched Zone |
| Nested Piezometer - Perched Zone | Recovery Well - Regional Aquifer |
| Nested Piezometer - Regional Aquifer | Destroyed Well |
| Roads | |
| Diesel Fuel Line | |

Former Site Features

site Features

CECRA Facility Boundary (added by DEQ)

Recent Monitoring Indicated Results Less than EPH Fractionation RBSLs (2014 to 2018)

Recent Extents of EPH Fractionation Exceedance of RBSLs and/or LNAPL Presence (2014 - 2018) 160

T13N- R19W
Section S22
46.87541, -113.990712 (M-32)
September 2018

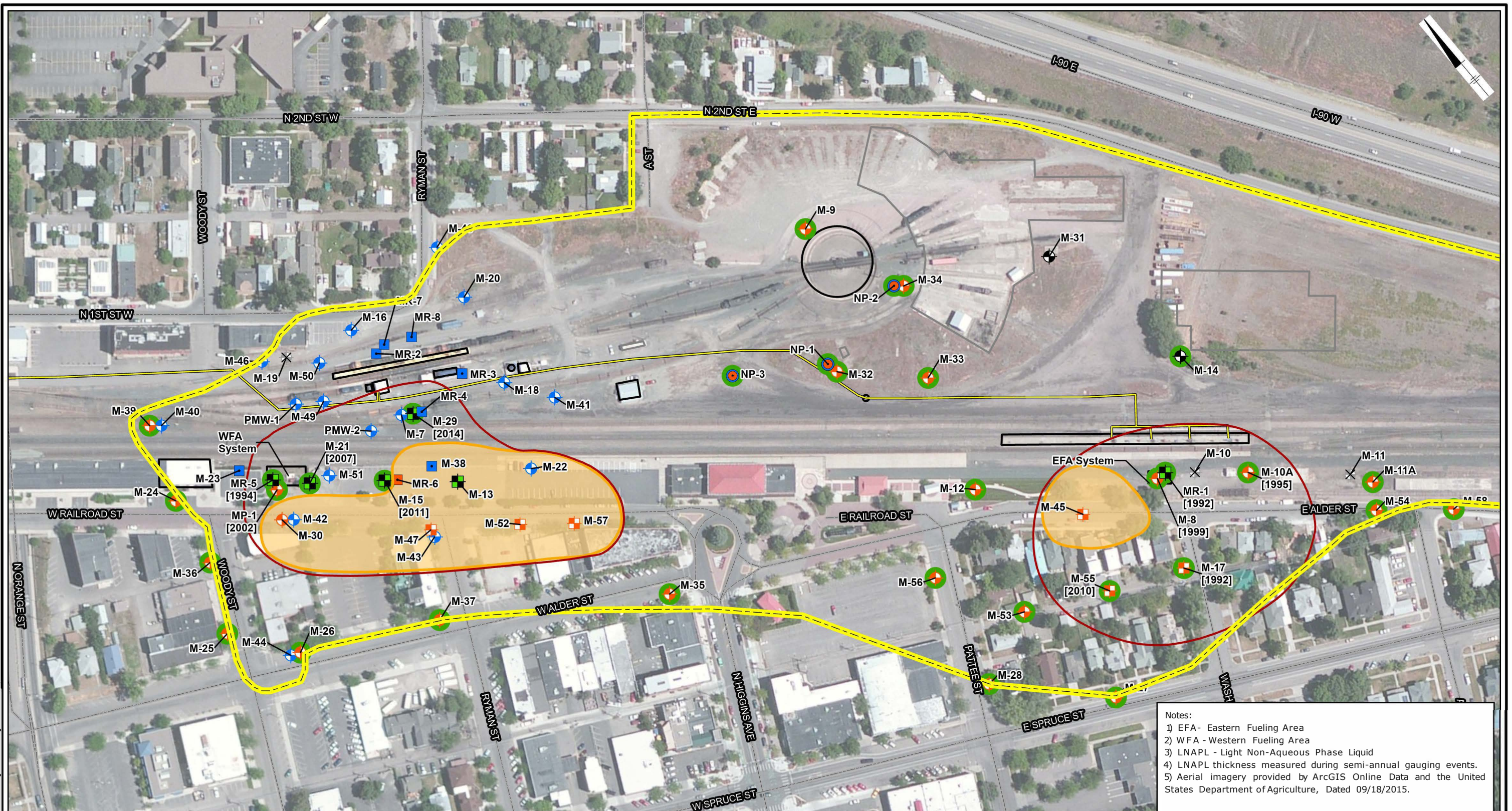
*Revised from Feasibility Study Report

BURLINGTON NORTHERN FACILITY MISSOULA
 MISSOULA, MONTANA
 RECORD OF DECISION

**EPH CONCENTRATIONS IN
 GROUNDWATER-PERCHED ZONE**

ARCADIS Design & Consultancy
 for natural and built assets

**FIGURE
 10**



Legend

- | Legend | | | | September 2018 |
|--------|--|--|------------------------------------|--------------------------|
| | Monitoring Well - Perched Zone | | Extraction Well - Regional Aquifer | - Roads |
| | Monitoring Well - Regional Aquifer | | Injection Well - Regional Aquifer | = Diesel Fuel Line |
| | Bedrock Well | | Recovery Well - Perched Zone | C) Former Site Features |
| | Nested Piezometer - Perched Zone | | Recovery Well - Regional Aquifer | c : J site Features |
| | Nested Piezometer - Regional Aquifer | | Destroyed Well | |
| | CECRA Facility Boundary (added by DEQ) | | | |
- Recent Extents of Measurable LNAPL Indicated From 1987 to 2018
- Recent Extents of Measurable LNAPL Indicated From 2014 to 2018
- Recent Gauging Indicated No Measurable LNAPL From 2014 to 2018. Date of Last Occurrence of Measurable LNAPL Indicated in Brackets.
- 0 160

**T13N-R19W
Section S22
46.87541, -113.990712 (M-32)
September 2018**

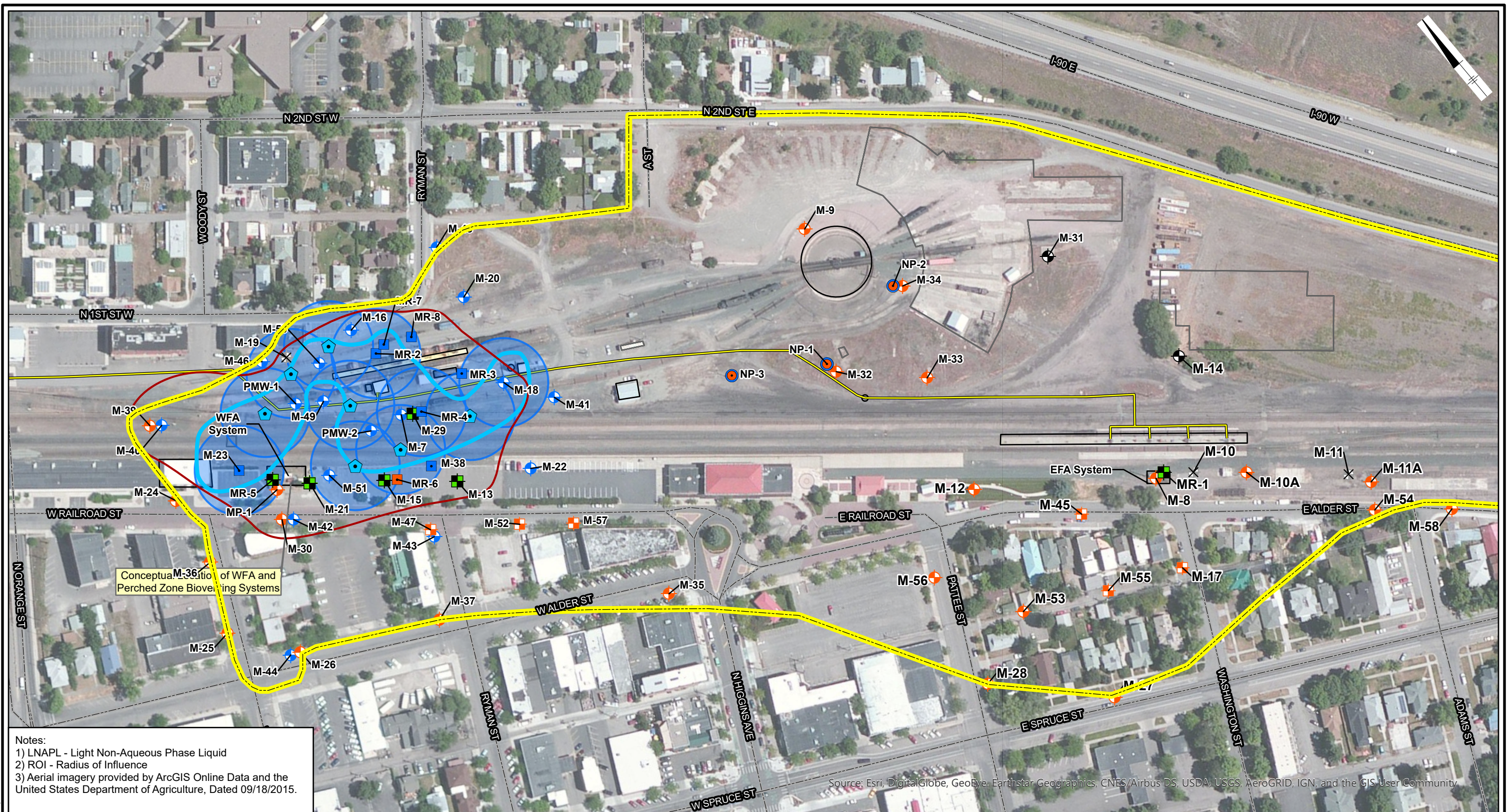


**BURLINGTON NORTHERN FACILITY MISSOULA
MISSOULA, MONTANA
RECORD OF DECISION**

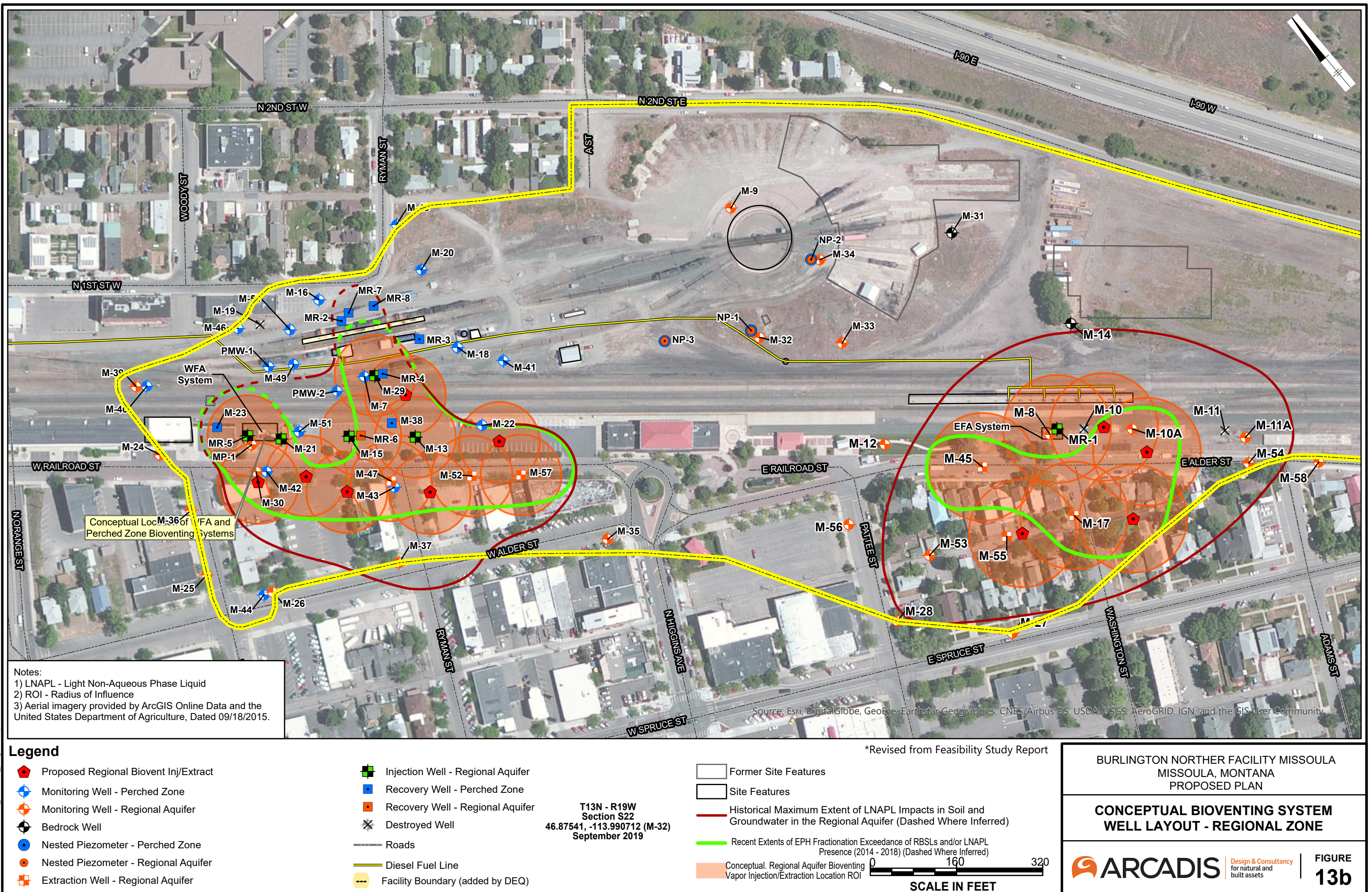
HISTORICAL LNAPL EXTENTS MAP REGIONAL AQUIFER



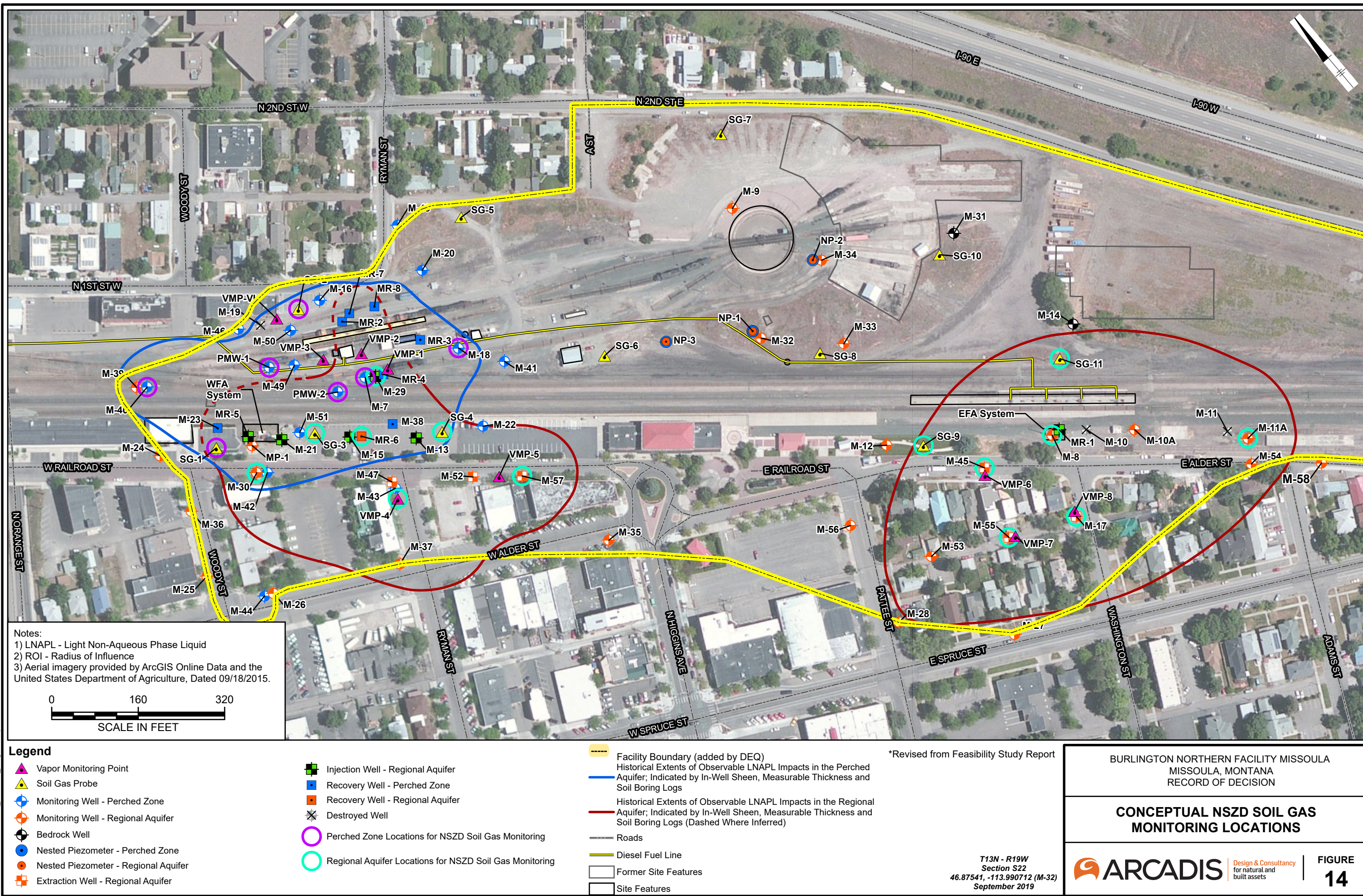
City: Div/Group: Created By: Last Saved By: CB5530
Project (Project #): L:\REM\CB5530\scratch\BN_Missoula_Diagrams.aprx 1/11/2021 7:44 AM



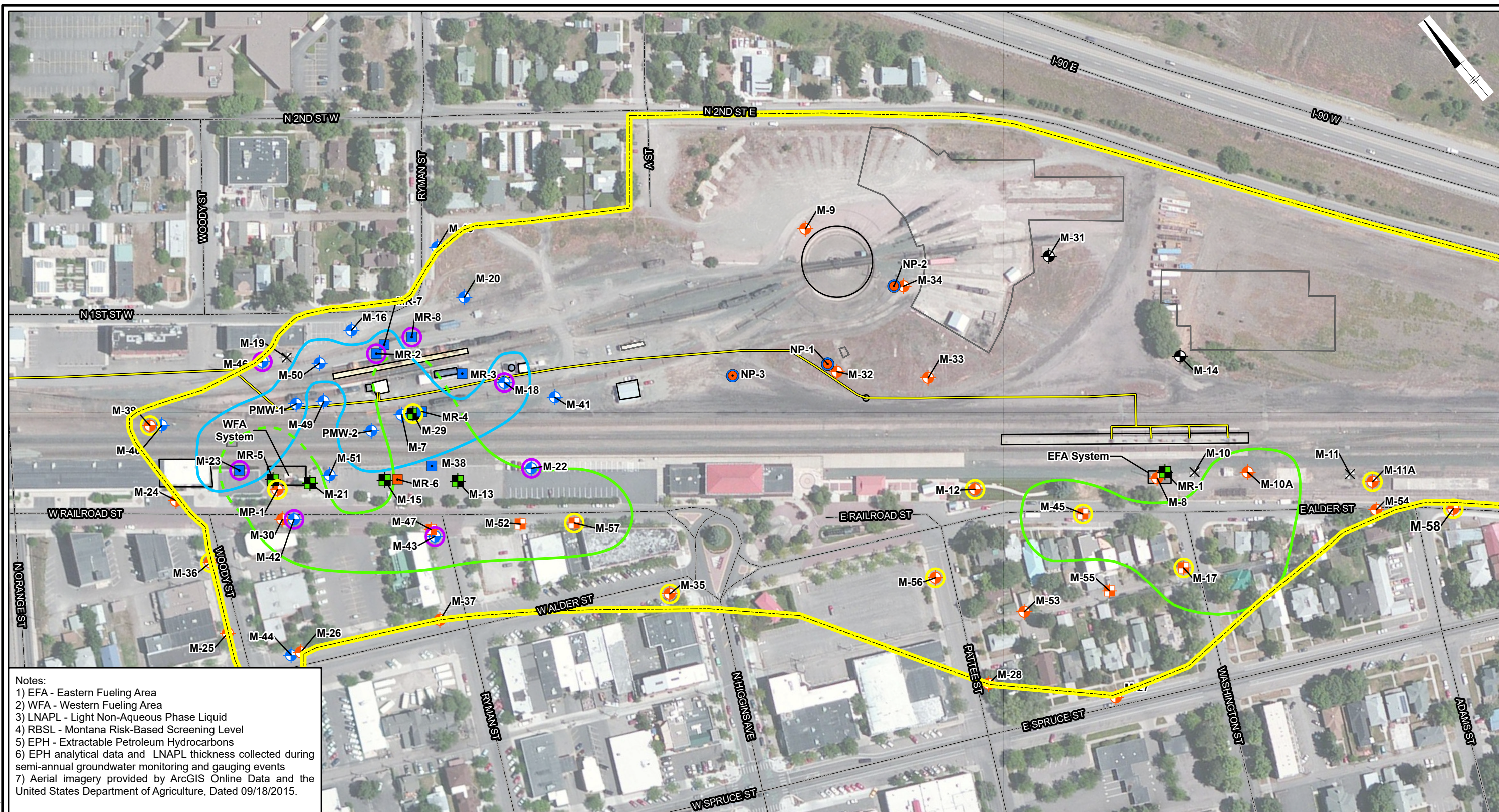
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



City: Div/Group: Created By: Last Saved By: CB5530
Project (Project #): L:\REM\CB5530\scratch\BN_Missoula_Diagrams.aprx 1/11/2021 7:48 AM



City: Div/Group: Created By: Last Saved By: CB5530
Project (Project #): L:\REM\CB5530\scratch\BN_Missoula_Diagrams.aprx 1/11/2021 7:54 AM



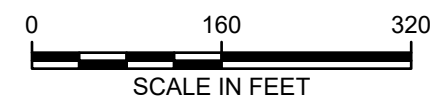
Notes:
1) EFA - Eastern Fueling Area
2) WFA - Western Fueling Area
3) LNAPL - Light Non-Aqueous Phase Liquid
4) RBSL - Montana Risk-Based Screening Level
5) EPH - Extractable Petroleum Hydrocarbons
6) EPH analytical data and LNAPL thickness collected during semi-annual groundwater monitoring and gauging events
7) Aerial imagery provided by ArcGIS Online Data and the United States Department of Agriculture, Dated 09/18/2015.

Legend

- Monitoring Well - Perched Zone
- Monitoring Well - Regional Aquifer
- Bedrock Well
- Nested Piezometer - Perched Zone
- Nested Piezometer - Regional Aquifer
- Extraction Well - Regional Aquifer
- Injection Well - Regional Aquifer
- Recovery Well - Perched Zone
- Recovery Well - Regional Aquifer
- Destroyed Well
- Conceptual Regional Aquifer MNA Locations
- Conceptual Perched Zone MNA Locations
- Recent Extents of EPH Fractionation Exceedance of RBSLs and/or LNAPL Presence (2014 to 2018) Regional Aquifer (Dashed Where Inferred)
- Recent Extents of EPH Fractionation Exceedance of RBSLs and/or LNAPL Presence (2014 - 2018) Perched Zone
- Roads
- Diesel Fuel Line
- Former Site Features
- Site Features
- Facility Boundary (added by DEQ)

*Revised from Feasibility Study Report

T13N - R19W
Section S22
46.87541, -113.990712 (M-32)
September 2019



BURLINGTON NORTHERN FACILITY MISSOULA
MISSOULA, MONTANA
RECORD OF DECISION

CONCEPTUAL MONITORED NATURAL ATTENUATION MONITORING WELL NETWORK

ARCADIS Design & Consultancy
for natural and
built assets

FIGURE
15

APPENDIX A

**DETERMINATION OF
ENVIRONMENTAL REQUIREMENTS, CRITERIA, OR LIMITATIONS**

Remedial action undertaken pursuant to the Comprehensive Environmental Cleanup and Responsibility Act (CECRA), § 75-10-701, *et seq.*, MCA, must “attain a degree of cleanup of the hazardous or deleterious substance and control of a threatened release or further release of that substance that assures protection of public health, safety and welfare and of the environment.” Section 75-10-721(1), MCA. Additionally, DEQ “shall require cleanup consistent with applicable state or federal environmental requirements, criteria, or limitations” and “may consider substantive state or federal environmental requirements, criteria or limitation that are relevant to the facility conditions.” Sections 75-10-721(2)(a) and (b), MCA.

There is a distinction between “applicable” requirements and those that are “relevant.” “Applicable” requirements are those requirements that would legally apply at the Burlington Northern (BN) Missoula Facility regardless of the CECRA action. “Relevant” requirements are those requirements that are not applicable, but address situations or problems sufficiently similar to those at the facility and, therefore, are relevant for use at the facility.

Environmental requirements, criteria or limitations (ERCLs) are generally grouped into three categories: action-specific, contaminant-specific, and location-specific. Action-specific requirements are those that are triggered by the performance of a certain activity as part of a particular remedy. They do not in themselves determine the remedy but rather indicate the manner in which the remedy must be implemented. Contaminant-specific requirements are those that establish an allowable level or concentration of a hazardous or deleterious substance in the environment or that prescribe a level or method of treatment for a hazardous or deleterious substance. Location-specific requirements are those that serve as restrictions on the concentration of a hazardous or deleterious substance or the conduct of activities solely because the facility is in a specific location or the action affects specified types of areas. Some ERCLs could be categorized in more than one way; in this case, they are generally not duplicated within the document.

CECRA defines as cleanup requirements only state and federal ERCLs. Remedial designs, implementation, operation, and maintenance must, nevertheless, comply with all other applicable laws, both state and federal. Many such laws, while not strictly environmental, have environmental impacts. It remains the responsibility of the persons implementing the remedy to identify and comply with all other laws.

Many requirements listed here are promulgated as identical or nearly identical requirements in both federal and state law, usually pursuant to delegated environmental programs administered by the Environmental Protection Agency and the states, such as the requirements of the federal Clean Water Act and the Montana Water Quality Act. ERCLs and other laws that are unique to state law are also identified.

Within this document, DEQ has identified applicable or relevant state and federal ERCLs for the BN Missoula Facility. The description of applicable and relevant federal and state requirements that follows includes summaries of the legal requirements that attempt to set out the requirement in a reasonably concise fashion that is useful in evaluating compliance with the requirement. These descriptions are provided to allow the user a basic indication of the requirement without having to refer back to the statute or regulation itself.

However, in the event of any inconsistency between the law itself and the summaries provided in this document, the actual requirement is ultimately the requirement as set out in the law, rather than any paraphrase of the law provided here.

ACTION-SPECIFIC ERCLs

Water Quality Requirements

Clean Water Act, Point Source Discharges Requirements, 33 USC §1342 (applicable, substantive provisions only):

Section 402 of the Clean Water Act, 33 USC §§ 1342, *et seq.*, authorizes the issuance of permits for the discharge of any pollutant. This includes storm water discharges associated with industrial activity. *See*, 40 CFR 122.1(b)(2)(iv). Industrial activity includes inactive mining operations that discharge storm water contaminated by contact with or that has come into contact with any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations, *see*, 40 CFR 122.26(b)(14)(iii); landfills, land application sites, and open dumps that receive or have received any industrial wastes including those subject to regulation under RCRA subtitle D, *see*, 40 CFR 122.26(b)(14)(v); and construction activity including clearing, grading, and excavation activities, *see*, 40 CFR 122.26(b)(14)(x). Because the State of Montana has been delegated the authority to implement the Clean Water Act, these requirements are enforced in Montana through the Montana Pollutant Discharge Elimination System (MPDES). The MPDES requirements are set forth below.

ARM 17.30.1201 *et seq.*, (standards) and ARM 17.30.1301 *et seq.* (permits) (applicable): If point sources of water contamination are retained or created by any remediation activity, applicable Clean Water Act standards would apply to those discharges. The State of Montana established state standards and permit requirements in conformity with the Clean Water Act, and these standards and requirements apply to point source discharges.

ARM 17.30.1342-1344 (applicable): The State of Montana has been delegated the authority to implement the Clean Water Act and these requirements are enforced in Montana through the MPDES. These regulations set forth the substantive requirements applicable to all MPDES and National Pollutant Discharge Elimination System permits. The substantive requirements, including the requirement to properly operate and maintain all facilities and systems of treatment and control, are applicable requirements.

Montana Water Quality Act, §§ 75-5-101, *et seq.*, MCA:

Section 75-5-605, MCA (applicable), prohibits causing pollution of any state waters. Pollution is defined as contamination or other alteration of physical, chemical, or biological properties of state waters that exceeds that permitted by the water quality standards or the discharge, seepage, or drainage of any substances into state water that will likely create a nuisance or render the water harmful, detrimental or injurious to public health, recreation, safety, or welfare, or to livestock or wild animals. Also, it is unlawful to place or cause to be placed any wastes where they will cause pollution of any state waters.

Section 75-5-303, MCA (applicable), states that existing uses of state waters and the level of water quality necessary to protect the uses must be maintained and protected. Section 75-5-317, MCA, provides an exemption from nondegradation requirements that allows changes of existing water quality resulting from an emergency action or reclamation that is designed to protect the public health or the environment and that is approved, authorized, or required by the department. Degradation meeting these requirements may be considered nonsignificant.

ARM 17.30.1011 (applicable), provides that any groundwater whose existing quality is higher than the standard for its classification must be maintained at that high quality unless degradation may be allowed under the principles established in Section 75-5-303, MCA and the nondegradation rules at ARM 17.30.701, *et seq.*

Stormwater Runoff Control Requirements

ARM 17.24.633 (applicable), provides all surface drainage from a disturbed area must be treated by the best technology currently available (BTCA). Sediment control through BTCA must be maintained until the disturbed area has been reclaimed, the revegetation requirements have been met, and the area meets state and federal requirements for the receiving stream.

ARM 17.30.1341 (applicable), DEQ issues storm water permits for certain activities. Generally, the permits require the permittee to implement best management practices (BMPs) and to take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment. However, if there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with the activity, an individual MPDES permit or alternative general permit may be required.

Air Standards

These standards, promulgated pursuant to section 109 of the Clean Air Act, 42 U.S.C. §§ 7401, *et seq.*, (applicable) are applicable to releases into the air from any cleanup activities or wind erosion of exposed hazardous substances.

Sections 75-2-101, *et seq.*, MCA, (applicable) provide that state emission standards are enforceable under the Montana Clean Air Act.

ARM 17.8.802 (applicable) incorporates by reference the air regulations in certain parts of CFR Title 40 regarding quality assurance requirements for prevention of significant deterioration air monitoring; standards of performance for new stationary sources; emission standards for hazardous air pollutants, and other standards and requirements.

ARM 17.8.805 (applicable) provides ambient air ceilings, and states that no concentrations of a pollutant may exceed concentrations permitted under either the applicable secondary or the primary national ambient air quality standard, whichever concentration is lowest for the pollutant for a period of exposure.

ARM 17.8.204 (applicable) provides for ambient air monitoring and provides that, generally, all ambient air monitoring, sampling and data collection, recording, analysis and transmittal must be

in compliance with the Montana Quality Assurance Manual except when DEQ determines that more stringent requirements are necessary.

ARM 17.8.220 (applicable) prohibits causing or contributing to concentrations of particulate matter in the ambient air such that the mass of settle particulate matter exceeds a 30-day average: 10 gm/m², 30-day average, not to be exceeded. A measurement method is also provided.

ARM 17.8.222 (applicable) provides that lead in ambient air shall not exceed a 90-day average of 1.5 micrograms per cubic meter of air.

Dust control regulations are promulgated at ARM 17.8.223 as part of a federally approved State Implementation Plan (SIP), pursuant to the Clean Air Act of Montana, §§ 75-2-101 *et seq.*, MCA (applicable). Corresponding federal regulations are found at 40 CFR 50.6 (applicable).

ARM 17.8.308 (applicable) provides that no person shall cause or authorize the production, handling, transportation or storage of any material; or cause or authorize the use of any street, road, or parking lot; or operate a construction facility or demolition project, unless reasonable precautions to control emissions of airborne particulate matter are taken.

ARM 17.8.308 and ARM 17.8.304 (applicable) state that emissions of airborne particulate matter must be controlled so that they do not “exhibit an opacity of twenty percent (20%) or greater average over six consecutive minutes.”

ARM 17.8.324 (applicable) contains certain standards regarding hydrocarbon emissions and the treatment, storage, and handling of petroleum products.

Section 82-4-231, MCA, and ARM 17.24.761 (relevant) specifies a range of measures for controlling fugitive dust emissions during mining and reclamation activities. Some of the measures could be considered relevant to control fugitive dust emissions in connection with excavation, earth-moving and transportation activities conducted as part of the remedy at the facility. Such measures include, for example, paving, watering, chemically stabilizing, or frequently compacting and scraping roads, promptly removing rock, soil or other dust-forming debris from roads, restricting vehicle speeds, revegetating, mulching, or otherwise stabilizing the surface of areas adjoining roads, restricting unauthorized vehicle travel, minimizing the area of disturbed land, and promptly revegetating regraded lands.

Water Well Requirements

Section 85-2-505, MCA (applicable) precludes the wasting of groundwater. Any well producing waters that contaminate other waters must be plugged or capped, and wells must be constructed and maintained so as to prevent waste, contamination, or pollution of groundwater.

Section 85-2-516, MCA (applicable) states that within 60 days after any well is completed a well log report must be filed by the driller with the Montana Bureau of Mines and Geology.

ARM 17.30.641 (applicable) provides standards for sampling and analysis of water to determine quality.

ARM 17.30.646 (applicable) requires that bioassay tolerance concentrations be determined in a specified manner.

ARM 36.21.670-678 (relevant) and 36.21.801-810 (applicable) specifies certain requirements that must be fulfilled when constructing and abandoning monitoring wells.

Technology-Based Treatment

ARM 17.30.1203 (applicable): Provisions of 40 CFR Part 125 for criteria and standards for the imposition of technology-based treatment requirements are adopted and incorporated in DEQ permits. For toxic and nonconventional pollutants treatment must apply the best available technology economically achievable (BAT); for conventional pollutants, application of the best conventional pollutant control technology (BCT) is required. Where effluent limitations are not specified for the particular industry or industrial category at issue, BCT/BAT technology-based treatment requirements are determined on a case by case basis using best professional judgment (BPJ).

Underground Injection Control Program

The Underground Injection Control Program provided in 40 CFR Parts 144 and 146 (applicable) sets forth the standards and criteria for the injection of substances into aquifers. Wells are classified as Class I through V, depending on the location and the type of substance injected. For all classes, no owner may construct, operate or maintain an injection well in a manner that results in the contamination of an underground source of drinking water at levels that violate MCLs or otherwise adversely affect the health of persons. Each classification may also contain further specific standards, depending on the classification.

Free Product Removal

Information generated during the Remedial Investigation and subsequent investigations indicates that all known underground storage tanks have been removed from the BN Missoula Facility, although piping and aboveground storage tanks remain. In addition, there is free product at the Facility. Therefore, certain storage tank regulations are applicable or relevant.

40 CFR Part 280, Subpart F (relevant) sets forth requirements for Release Response and Corrective Action for underground storage tank (UST) Systems Containing Petroleum or Hazardous Substances. These include initial response, initial abatement measures, facility characterization, free product removal, and investigations for soil and groundwater cleanup.

40 CFR 280.64 (relevant) provides that where investigations in connection with leaking underground storage tanks reveal the presence of free product, owners and operators must remove free product to the maximum extent practicable as determined by the implementing agency. This regulation also requires that the free product removal be conducted in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the facility, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable local, state and federal regulations. Abatement of free product migration is a minimum objective for the design of the free product removal system and provides that any flammable products must be

handled in a safe and competent manner to prevent fires or explosions. Based upon 40 CFR 280.43 and ARM 17.56.407 (below), DEQ has determined that “to the maximum extent practicable” generally means 1/8 of an inch of free product or less.

40 CFR 280.43 (relevant) specifies groundwater monitoring requirements for underground storage tanks and requires continuous monitoring devices or manual methods used to detect the presence of at least 1/8 of an inch of free product on top of the groundwater in the monitoring wells.

ARM 17.56.407 (relevant) specifies groundwater monitoring requirements for underground storage tanks and requires continuous monitoring devices or manual methods used to detect the presence of at least 1/8 of an inch of free product on top of the groundwater in the monitoring wells.

ARM Title 17, Chapter 56, Sub-Chapter 6 (relevant) specifies release response and corrective action for tanks containing petroleum or hazardous substances.

ARM 17.56.602 through 605 (relevant) requires certain mitigation measures including removal of as much of the regulated substance from the system as is necessary to prevent further release into the environment and prevention of further migration of the released substance into surrounding soil and groundwater. In particular, ARM 17.56.602(1)(c) (applicable) requires that after a release from an underground storage tank system is identified in any manner, owners and operators must investigate to determine the possible presence of free product, begin free product removal as soon as practicable, conduct free product removal in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable local, state and federal regulations. This regulation also provides that abatement of free product migration is a minimum objective for the design of the free product removal system and provides that any flammable products must be handled in a safe and competent manner to prevent fires or explosions.

ARM 17.56.607(4)(d) (relevant) specifies that all free product must be removed to the maximum extent practicable before a release may be considered resolved.

ARM 17.56.702 (applicable) requires that all tanks and connecting piping that are taken out of service permanently must be removed from the ground. This applies if any remaining underground piping is encountered during remedial activities.

Reclamation and Revegetation

Certain portions of the Montana Strip and Underground Mining Reclamation Act and Montana Metal Mining Act, as outlined below, are relevant requirements for activities at the facility. While no mining activities are occurring at the facility, these requirements are relevant for the management and reclamation of areas disturbed by excavation, grading, or similar actions.

ARM 17.24.501 (relevant) gives general backfilling and final grading requirements.

AMR 17.24.519 (relevant) Pertinent areas where excavation occurs will be regraded to minimize settlement.

ARM 17.24.638 (relevant) specifies sediment control measures to be implemented during operations.

ARM 17.24.714 (relevant) requires use of a mulch or cover crop or both until an adequate permanent cover can be established. Use of mulching and temporary cover may be suspended under certain conditions.

ARM 17.24.716 (relevant) establishes the required method of revegetation and provides that introduced species may be substituted for native species as part of an approved plan for alternate vegetation.

ARM 17.24.751(relevant) measures to prevent degradation of fish and wildlife habitat will be employed.

ARM 17.24.761 (relevant) requires that fugitive dust control measures will be employed during excavation and construction activities to minimize the emission of fugitive dust.

Noxious Weeds

Section 7-22-2101(7)(a), MCA (applicable) defines “noxious weeds” as any exotic plant species established or that may be introduced in the state that may render land unfit for agriculture, forestry, livestock, wildlife, or other beneficial uses or that may harm native plant communities and that is designated: (i) as a statewide noxious weed by rule of the department; or (ii) as a district noxious weed by a board, following public notice of intent and a public hearing.

Designated noxious weeds are listed in ARM 4.5.201 through 4.5.210 (applicable) and must be managed consistent with weed management criteria developed under § 7-22-2109(2)(b), MCA (applicable).

Section 7-22-2152, MCA (applicable) requires that any person proposing certain actions including but not limited to a solid waste facility, a highway or road, a commercial, industrial, or government development, or any other development that needs state or local approval and that results in the potential for noxious weed infestation within a district must notify the district weed board at least 15 days prior to the activity. The board will require that the areas be seeded, planted, or otherwise managed to reestablish a cover of beneficial plants. The person committing the action must submit to the board a written plan specifying the methods to be used to accomplish revegetation at least 15 days prior to the activity. The plan must describe the time and method of seeding, fertilization practices, recommended plant species, use of weed-free seed, and the weed management procedures to be used. The plan is subject to approval by the board, which may require revisions to bring the revegetation plan into compliance with the district weed management plan. The activity for which notice is given may not occur until the plan is approved by the board and signed by the presiding officer of the board and by the person or a representative of the agency responsible for the action. The signed plan constitutes a binding agreement between the board and the person or agency. The plan must be approved, with

revisions if necessary, within 10 days of receipt by the board.

CONTAMINANT-SPECIFIC ERCLs

Groundwater Standards

The federal Safe Drinking Water Act – 42 U.S.C. § 300f *et seq.* and the National Primary Drinking Water Regulations (40 CFR Part 141) (applicable) establish MCLs and maximum contaminant level goals (MCLGs) for contaminants in drinking water distributed in public water systems. The requirements were evaluated in this ERCLs analysis in conjunction with the ground water classification standards promulgated by the State of Montana.¹ The MCLs and MCLGs are identified because the groundwater in the area of the BN Missoula Facility is a source of drinking water.

Use of these standards for this action is fully supported by EPA regulations and guidance. The Preamble to the National Contingency Plan (NCP) clearly states that MCLs are relevant for groundwater that is a current or potential source of drinking water (55 Fed.Reg. 8750, March 8, 1990), and this determination is further supported by requirements in the regulations governing conduct of the RI/FS studies found at 40 CFR 300.430(e)(2)(i)(B). EPA's guidance on Remedial Action for Contaminated Groundwater at Superfund Sites states that "MCLs developed under the Safe Drinking Water Act generally are ARARs [the federal equivalent of ERCLs] for current or potential drinking water sources." MCLGs that are above zero are relevant under the same conditions (55 Fed.Reg. 8750-8752, March 8, 1990). *See also, State of Ohio v. EPA*, 997 F.2d 1520 (D.C. Cir. 1993), which upholds EPA's application of MCLs and non-zero MCLGs as ARARs for groundwater that is a potential drinking water source.

Chemical	MCLG*	MCL
Acenaphthene	0	10 µg/L
Arsenic	0	10 µg/L
Benzo(a)anthracene	0	0.5 µg/L
Benzo(a)pyrene	0	0.2 µg/L
Benzo(b)fluoranthene	0	0.5 µg/L
Bis(2-ethylhexyl)phthalate	0	6 µg/L
Dibenzo(a,h)anthracene	0	0.05µg/L
Fluorene	0	50 µg/L
n-Nitrosodimethylamine	0	0.0069 µg/L
Trichloroethylene	0	5 µg/L

* An MCLG of zero is not an appropriate standard for Superfund site cleanups.

In addition, the Secondary Maximum Contaminant Levels (SMCLS) specified in 40 CFR Part 143.3 are relevant requirements which are ultimately to be attained by the remedy for the BN Missoula Facility. This regulation contains standards for iron, manganese, color, odor, and corrosivity that are relevant to the remedial actions.

¹ MCLs are promulgated pursuant to both federal and state laws. Under the Safe Drinking Water Act, EPA has granted the State of Montana primacy in implementation and enforcement of the Safe Drinking Water Act.

The Montana Water Quality Act, §§ 75-5-101, *et seq.*, MCA (applicable) and regulations.

The Montana Water Quality Act, § 75-5-605, MCA (applicable) provides that it is unlawful to cause pollution of any state waters, and § 75-6-112, MCA (applicable) provides that it is unlawful to discharge drainage or other waste that will cause pollution of state waters used as a source for a public water supply or for domestic use as a well and prohibits other unlawful actions.

Section 75-5-605, MCA (applicable) also states that it is unlawful to place or cause to be placed any wastes where they will cause pollution of any state waters.

Section 75-5-303, MCA (applicable) states that existing uses of state waters and the level of water quality necessary to protect the uses must be maintained and protected.

ARM 17.30.1006 (applicable) provides that groundwater is classified I through IV based on its beneficial uses. Class I is the highest quality class; class IV the lowest. The groundwater at the Facility is classified as Class I, because it has a natural specific conductance less than or equal to 1,000 microSiemens/cm at 25°C. ARM 17.30.1006 sets the standards for the different classes of groundwater. The quality of Class I ground water must be maintained suitable for the following beneficial uses with little or no treatment: (i) public and private water supplies; (ii) culinary and food processing purposes; (iii) irrigation; (iv) drinking water for livestock and wildlife; and (v) commercial and industrial purposes.

Additionally, the Missoula Valley Aquifer, which includes groundwater at the Facility, is designated as a Sole Source Aquifer (53 FR 2085, June 7, 1988). The Sole Source Aquifer (SSA) Program is authorized by Section 1424(2) of the Safe Drinking Water Act of 1974 [42 USC 300 *et seq.*]. Federally Funded projects that have the potential to contaminate a designated SSA are subject to US Environmental Protection Agency review. The SSA designation is relevant to CECRA work at the BN Missoula Facility as all federal, state and local ground water protections must be met to protect ground water resources that serve as drinking water supplies.

Concentrations of dissolved substances in groundwater may not exceed the human health standards listed in Circular DEQ-7 Montana Numeric Water Quality Standards², (applicable) including narrative standards, which are promulgated pursuant to the state Water Quality Act, §§ 75-5-101, *et seq.*, MCA. Concentrations of other dissolved or suspended substances must not exceed levels that render the waters harmful, detrimental or injurious to beneficial uses. DEQ may use any pertinent credible information to determine these levels. Contaminants in groundwater at the facility that do not have DEQ-7 standards include the petroleum fractions³. For the primary contaminants of concern, the DEQ-7 standards are listed below. However, compliance with all DEQ-7 standards is required and remedial actions must meet the DEQ-7 standards for all contaminants at the facility, including any breakdown products generated during

² Montana Department of Environmental Quality, Water Quality Division, *Circular DEQ-7, Montana Numeric Water Quality Standards* (June 2019) (“DEQ-7”).

³ C9-C18 Aliphatics, C19-36 Aliphatics, C11-C22 Aromatics.

remedial actions.

Chemical	DEQ-7 Standard for Groundwater
Acenaphthene	10 µg/L
Arsenic	10 µg/L l
Benzo(a)anthracene	0.5 µg/L
Benzo(a)pyrene	0.05 µg/L
Benzo(b)fluoranthene	0.5 µg/L
Bis(2-ethylhexyl)phthalate	6 µg/L
Dibenzo(a,h)anthracene	0.05 µg/L
Fluorene	50 µg/L
n-Nitrosodimethylamine	0.0069 µg/L
Trichloroethylene	5 µg/L

Surface Water Quality Standards

No obvious drainage, ditches or other surface water bodies are present at the BN Missoula Facility. However, the Clark Fork River is approximately one-half mile from the facility. Therefore, some surface water ERCLs are included in this section.

The Montana Water Quality Act, §§ 75-5-101 *et seq.*, MCA, (applicable) establishes requirements for restoring and maintaining the quality of surface and ground waters, and the federal Clean Water Act, 33 U.S.C. §§ 1251 *et seq.*, establishes requirements for restoring and maintaining the quality of surface waters. Under these Acts the state has authority to adopt water quality standards designed to protect beneficial uses of each water body and to designate uses for each water body. Montana's regulations classify state waters according to quality, place restrictions on the discharge of pollutants to state waters and prohibit the degradation of state waters.

ARM 17.30.607 (applicable) provides that the Clark Fork River is classified as B-1.

ARM 17.30.623 (applicable) provides the classification standards and beneficial uses for the B-1 classification and provides that concentrations of carcinogenic, bioconcentrating, toxic, or harmful parameters that would remain in the water after conventional water treatment may not exceed DEQ-7 standards. The section also provides the specific water quality standards for water classified as B-1 that must be met.

In addition, the following criteria apply:

1. Dissolved oxygen concentration must not be reduced below the levels given in DEQ-7, as provided in the following table (in milligrams per liter)

	Early Life Stages ^{1,2}	Other Life Stages
30 Day Mean	n/a ³	6.5
7 Day Mean	9.5 (6.5)	n/a ³

7 Day Mean Minimum	n/a ³	5.0
1 Day Minimum ⁴	8.0 (5.0)	4.0

1 These are water column concentrations recommended to achieve the required inter-gravel dissolved oxygen concentrations shown in parentheses. For species that have early life stages exposed directly to the water column, the figures in parentheses apply.

2 Includes all embryonic and larval stages and all juvenile forms of fish to 30 days following hatching.

3 not applicable

4 All minima should be considered instantaneous concentrations to be achieved at all times

2. Induced variation of hydrogen ion concentration (pH) within the range of 6.5 to 8.5 must be maintained at less than 0.5 pH unit. Natural pH outside this range must be maintained without change. Natural pH above 7.0 must be maintained above 7.0;
3. The maximum allowable increase above naturally occurring turbidity is five nephelometric turbidity units, except as permitted by § 75-5-318, MCA;
4. Temperature increases must be kept within prescribed limits;
5. No increase is allowed above naturally occurring concentrations of sediment, settleable solids, oils, or floating solids which will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish or other wildlife;
6. True color must be kept within specified limits; and
7. E-coli must be kept below specified limits.

Creeks, rivers, ditches and other bodies of surface water must meet these requirements.⁴

ARM 17.30.637 (applicable) prohibits discharges containing substances that will: (a) settle to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines; (b) create floating debris, scum, a visible oil film (or be present in concentrations at or in excess of 10 milligrams per liter) or globules of grease or other floating materials; (c) produce odors, colors or other conditions that create a nuisance or render undesirable tastes to fish flesh or make fish inedible; (d) create concentrations or combinations of materials that are toxic or harmful to human, animal, plant or aquatic life; (e) create conditions that produce undesirable aquatic life.

ARM 17.30.637 (applicable) also provides that no wastes may be discharged and no activities conducted such that the wastes or activities, either alone or in combination with other wastes or activities, will violate, or can reasonably be expected to violate, any of the standards. No pollutants may be discharged and no activities may be conducted that, either alone or in combination with other wastes or activities, result in the total dissolved gas pressure relative to the water surface exceeding 110 percent of saturation.

⁴ As provided under ARM 17.30.602(31), "surface water means any waters on the Earth's surface, including, but not limited to, streams, lakes, ponds, and reservoirs; and irrigation and drainage systems discharging directly into a stream, lake, pond, reservoir or other surface water. Water bodies used solely for treating, transporting, or impounding pollutants shall not be considered surface water.

ARM 17.30.705 (applicable) provides that for any surface water, existing and anticipated uses and the water quality necessary to protect these uses must be maintained and protected unless degradation is allowed under the nondegradation rules at ARM 17.30.708.

Air Quality

The Clean Air Act (42 U.S.C. §§ 7401 *et seq.*) (applicable) provides limitations on air emissions resulting from cleanup activities or emissions resulting from wind erosion of exposed hazardous substances. Some of these ERCLs, identified as action-specific requirements could also be identified here as contaminant-specific requirements, but will not be repeated.

The National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 CFR Part 61 (applicable) establishes emission standards for specific air pollutants.

Sections 75-2-101, *et seq.*, MCA, (applicable) provides that state emission standards are enforceable under the Montana Clean Air Act.

ARM 17.8.220 (applicable) provides that no person may cause or contribute to concentrations of particulate matter in the ambient air such that the mass of settled particulate matter exceeds a 30-day average of 10 gm/m². A measurement method is also provided.

ARM 17.8.222 (applicable) provides that lead in ambient air shall not exceed a 90-day average of 1.5 micrograms per cubic meter of air.

ARM 17.8.221 (applicable) provides concentrations of particulate matter in ambient air must not exceed annual average scattering coefficient of 3×10^{-5} per meter.

Ambient air standards under section 109 of the Clean Air Act are also promulgated for carbon monoxide, hydrogen sulfide, nitrogen dioxide, sulfur dioxide, ozone, and lead. If emissions of these compounds were to occur at the facility in connection with any cleanup action, these standards would also be applicable. See ARM 17.8.210, 17.8.211, 17.8.212, 17.8.213, 17.8.214, and 17.8.222.

LOCATION-SPECIFIC ERCLS

Endangered Species.

The Endangered Species Act (relevant). This statute and implementing regulations (16 U.S.C. § 1531 *et seq.*, 50 CFR Part 402, and 40 CFR 257.3-2) require that any federal activity or federally authorized activity may not jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify a critical habitat. Compliance with this requirement involves consultation with the U.S. Fish and Wildlife Service (USFWS) and a determination of whether there are listed or proposed species or critical habitats present at the facility, and, if so, whether any proposed activities will impact such wildlife or habitat.

Montana Nongame and Endangered Species Act, §§ 87-5-101 *et seq.* (applicable): Endangered species should be protected in order to maintain and to the extent possible enhance their numbers.

These sections list endangered species, prohibited acts and penalties. *See also*, § 87-5-201, MCA, (applicable) concerning protection of wild birds, nests and eggs; and ARM 12.5.201 (applicable) prohibiting certain activities with respect to specified endangered species.

Migratory Bird Treaty Act

This requirement (16 USC §§ 703 *et seq.*) (relevant) establishes a federal responsibility for the protection of the international migratory bird resource and requires continued consultation with the appropriate program within the USFWS during remedial design and remedial construction to ensure that the cleanup of the facility does not unnecessarily impact migratory birds.

Bald Eagle Protection Act

This requirement (16 USC §§ 668 *et seq.*) (relevant) establishes a federal responsibility for protection of bald and golden eagles, and requires continued consultation with the appropriate program within the USFWS during remedial design and remedial construction to ensure that any cleanup of the facility does not unnecessarily adversely affect the bald and golden eagle.

Historic Sites, Buildings, Objects and Antiquities Act

These requirements, found at 16 USC 461 *et seq.*, (relevant) provide that, in conducting an environmental review of a proposed action, the responsible official must consider the existence and location of natural landmarks using information provided by the National Park Service pursuant to 36 CFR § 62.6(d) to avoid undesirable impacts upon such landmarks.

Solid Waste Management

Section 75-10-212, MCA (applicable) prohibits dumping or leaving any debris or refuse upon or within 200 yards of any highway, road, street, or alley of the State or other public property, or on privately owned property where hunting, fishing, or other recreation is permitted. However, the restriction relating to privately owned property does not apply to the owner, his agents, or those disposing of debris or refuse with the owner's consent.

OTHER LAWS (NON-EXCLUSIVE LIST)

CECRA defines as ERCLs only applicable or relevant state and federal environmental laws. Remedial design, implementation, and operation and maintenance must nevertheless comply with all other applicable laws. The following "other laws" are included here to provide a reminder of other potentially legally applicable requirements for actions at the BN Missoula Facility. They do not purport to be an exhaustive list of such legal requirements but are included because they set out related concerns that must be addressed and, in some cases, may require some advance planning. They are not included as ERCLs because they are not "environmental laws."

Other Federal Laws

Occupational Safety and Health Regulations

The federal Occupational Safety and Health Act regulations found at 29 CFR 1910 are applicable to worker protection during conduct of all remedial activities.

Other Montana Laws

Public Water Supply Regulations

If remedial action at the BN Missoula Facility requires any reconstruction or modification of any public water supply line or sewer line, the construction standards specified in ARM 17.38.101 *et seq.* must be observed.

Water Rights

Section 85-2-101, MCA, declares that all waters within the state are the state's property, and may be appropriated for beneficial uses. The wise use of water resources is encouraged for the maximum benefit to the people and with minimum degradation of natural aquatic ecosystems. Parts 3 and 4 of Title 85, Chapter 2, MCA, set out requirements for obtaining water rights and appropriating and utilizing water. All requirements of these parts are laws which must be complied with in any action using or affecting waters of the state. Some of the specific requirements are set forth below.

Section 85-2-301, MCA, of Montana law provides that a person may only appropriate water for a beneficial use.

Section 85-2-302, MCA, specifies that a person may not appropriate water or commence construction of diversion, impoundment, withdrawal or distribution works therefore except by applying for and receiving a permit from the Montana Department of Natural Resources and Conservation. While the permit itself may not be required under federal law, appropriate notification and submission of an application should be performed and a permit should be applied for in order to establish a priority date in the prior appropriation system.

Section 85-2-306, MCA, specifies the conditions on which groundwater may be appropriated, and, at a minimum, requires notice of completion and appropriation within 60 days of well completion.

Section 85-2-311, MCA, specifies the criteria which must be met in order to appropriate water and includes requirements that:

1. there are unappropriated waters in the source of supply;
2. the proposed use of water is a beneficial use; and
3. the proposed use will not interfere unreasonably with other planned uses or developments.

Section 85-2-402, MCA, specifies that an appropriator may not change an appropriated right except as provided in this section with the approval of the DNRC.

Section 85-2-412, MCA, provides that, where a person has diverted all of the water of a stream by virtue of prior appropriation and there is a surplus of water, over and above what is actually and necessarily used, such surplus must be returned to the stream.

APPENDIX B

MODEL RESTRICTIVE COVENANTS

**After recording, please return to:
[insert BNSF and the entity address]**

DECLARATION OF RESTRICTIVE COVENANTS ON REAL PROPERTY

THIS DECLARATION OF RESTRICTIVE COVENANTS ON REAL PROPERTY (Restrictive Covenants) is made by BNSF Railway Company (“BNSF”) as of [insert date].

RECITALS

WHEREAS, BNSF is the owner of certain real property (the Subject Property) located in Missoula County, Montana, shown on Attachment 1 and more particularly described as:

[insert property description]

WHEREAS, the Subject Property is located within the BN Missoula Facility (Facility);

WHEREAS, the Montana Department of Environmental Quality (DEQ) has determined that releases or threatened releases of hazardous or deleterious substances that may pose an imminent and substantial endangerment to public health, safety, or welfare or the environment exist and that these hazardous or deleterious substances have come to be located upon the Subject Property;

WHEREAS, DEQ, under the authority of the Montana Comprehensive Environmental Cleanup and Responsibility Act, §§ 75-10-701 et seq., MCA, has issued a Record of Decision dated August 2021 for the Facility and selected a remedy to abate the imminent and substantial endangerment posed by the hazardous or deleterious substances;

WHEREAS, the site-specific cleanup levels selected as part of the final remedy were based upon the Subject Property being used, now and in the future, for commercial/industrial purposes and are not protective of unrestricted future use;

WHEREAS, BNSF is responsible for implementing DEQ's selected remedy;

WHEREAS, within the Subject Property, there are areas where groundwater exceeds Montana water quality standards and the site-specific cleanup levels selected in the Record of Decision;

WHEREAS, the selected remedy requires that BNSF restrict use of the Subject Property in order to mitigate the risk to the public health, safety or welfare or the environment and BNSF is willing to record, comply with, and enforce such restrictions as provided for in § 75-10-727, MCA;

NOW, THEREFORE, BNSF hereby agrees and declares:

1. Within the Subject Property, no wells may be drilled without the express advance written approval of DEQ. Groundwater within the Subject Property may not be used for any purpose other than sampling without the express prior written approval of DEQ. The integrity of any monitoring wells must be maintained by the owner of the Subject Property and may not remove any seals on any closed wells.
2. No residential development or use, including but not limited to permanent residential use; temporary residential use; limited residential use; short-term residential use; children's day care; mobile homes with or without footings; mobile home with or without a pad; or camping shall occur upon the Subject Property. It is BNSF's intention that this restriction be interpreted as broadly as possible to prohibit any type of residential use of the Subject Property whatsoever.
3. No action shall be taken, allowed, suffered, or omitted on the Subject Property if such action or omission is reasonably likely to create a risk of migration of hazardous or deleterious substances or a potential hazard to public health, safety, or welfare or the environment or result in a disturbance of the structural integrity of any engineering controls designed or utilized at the Facility to contain hazardous or deleterious substances or limit human or environmental exposure to the hazardous or deleterious substances.
4. [Insert owner's name] agrees to provide DEQ and its representatives and contractors, and all representatives and contractors of any person conducting DEQ-approved remedial actions on the Subject Property, access at all reasonable times to the Subject Property.

State of Montana)
)
) ss.
County of [insert county name])

On this __ day of _____, 20__, personally appeared _____,
before me, a Notary Public for the State of Montana, known to me to be the person whose
name is subscribed to the within instrument and acknowledged to me that he executed the
same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official
seal the day and year hereinabove first written.

(SEAL)

NOTARY PUBLIC FOR THE STATE OF MONTANA

Residing at _____

My Commission Expires: _____

APPENDIX C

Selected Remedy Cost Estimation Tables

Table C-1
Common Elements Including Long-Term Monitoring (Estimated Cost)

Scope Assumptions: Include 1. SAP submittal to DEQ for review and approval; 2. Following 2016 (current) semiannual monitoring program for WFA perched zone and regional aquifer and EFA regional aquifer including 42 EPH samples and assuming that 25 percent of EPH samples are fractionated; 3. Prepare an Annual Monitoring Report to document the results; 4. Sampling frequency consists of semiannual groundwater monitoring from Years 1 through 5 following 2016 (current) sampling program and annual monitoring from Years 6 through 10. The reduced annual sampling plan assumes that remedial actions and natural attenuation reduces TCE, VPH, and arsenic to below cleanup levels during years 1 to 5 and may be removed from the groundwater sampling program (starting Year 6); 5. Reducing the number of samples from 42 EPH samples to 30 in semiannual monitoring from Years 11 through 20, assuming 10 fractionate and 10 natural attenuation parameters; 6. Reducing the number of samples for EPH - 20 samples (5 fractionate) and 10 natural attenuation parameters in semiannual monitoring Years 21 through 30. The duration of groundwater monitoring will be revised upon reviewing annual sampling results. **Estimated contaminated groundwater volume: WFA perched zone, 2.6 million (M) gallons (gal.); WFA regional aquifer, 11.5 M gal. and EFA regional aquifer, 7.1 M gal. Total volume 21.2 M gal.**

Item Description	Quantity	Unit	Unit Cost	Extension	Assumptions	Source
Capital						
Zoning/Restrictive Covenants	1	lump sum	\$5,000	\$5,000		
Sampling and Analysis Plan (SAP) Update - 2016	1	lump sum	\$20,000	\$20,000	Submittal to Montana Department of Environmental Quality (DEQ) for review and approval.	
Groundwater Monitoring - 2016						
Sampling Labor	10	day	\$2,000	\$20,000	Semiannual events. \$2,000/day including other direct costs (ODCs).	
Chemical Analyses - Volatile Organic Compounds (VOCs)	9	sample	\$60	\$540		Per existing SAP.
Chemical Analyses - Extractable Petroleum Hydrocarbons (EPH)	42	sample	\$45	\$1,890		BNSF contract laboratory.
Chemical Analyses - Extractable Petroleum Hydrocarbons (EPH) with Fractionation	10	sample	\$100	\$1,000	Assumes 25 percent of EPH samples are fractionated.	
Chemical Analyses - Volatile Petroleum Hydrocarbons (VPH)	3	sample	\$65	\$195		
Chemical Analyses - Dissolved Metals (arsenic)	2	sample	\$12	\$24		
Investigation-Derived Waste (IDW) Disposal - Water	1	year	\$1,500	\$1,500	Treatment and discharge via sanitary sewer.	
Reporting	1	year	\$25,000	\$25,000	Annual Maintenance and Monitoring Report.	
Capital Estimated Cost				\$76,000	Includes Year 1 sampling costs	
Long-Term (Net Present Worth)						
Groundwater Monitoring (Year 2 through 5)					Semiannual groundwater monitoring.	
Sampling Labor	4		\$20,000	\$74,342		
Chemical Analyses	4		\$4,200	\$15,612	2016 laboratory analytical cost - \$4,200.	BNSF contract laboratory.
Groundwater Monitoring (Year 6 through 10)						
SAP Update	Year 6		\$3,500	\$2,931	SAP update at start of Year 6.	
Sampling Labor/Chemical Analyses - Year 6	Year 6		\$13,600	\$11,390	Annual monitoring from Years 6 through 10. The reduced SAP assumes that remedial actions and natural attenuation reduces TCE, VPH, and arsenic to below cleanup levels during years 1 to 5 and were removed from the sampling plan; Labor - \$10,000/year; analytical \$3,600/year.	
Sampling Labor/Chemical Analyses - Year 7	Year 7		\$13,600	\$11,058		
Sampling Labor/Chemical Analyses - Year 8	Year 8		\$13,600	\$10,736		
Sampling Labor/Chemical Analyses - Year 9	Year 9		\$13,600	\$10,423		
Sampling Labor/Chemical Analyses - Year 10	Year 10		\$13,600	\$10,120		
Groundwater Monitoring (Year 11 through 20)				\$0	Annual monitoring. Assumed 30 percent of the original well network is removed from the SAP due to natural attenuation and effective remedial actions that have reduced concentrations in 30% of the locations to below cleanup levels. Labor - \$8,000/year; analytical \$2,900/year.	
SAP Update	Year 11		\$3,500	\$2,528		
Sampling Labor/Chemical Analyses - Year 11	Year 11		\$10,900	\$7,874		
Sampling Labor/Chemical Analyses - Year 12	Year 12		\$10,900	\$7,645		
Sampling Labor/Chemical Analyses - Year 13	Year 13		\$10,900	\$7,422		
Sampling Labor/Chemical Analyses - Year 14	Year 14		\$10,900	\$7,206		
Sampling Labor/Chemical Analyses - Year 15	Year 15		\$10,900	\$6,996		
Sampling Labor/Chemical Analyses - Year 16	Year 16		\$10,900	\$6,793		
Sampling Labor/Chemical Analyses - Year 17	Year 17		\$10,900	\$6,595		
Sampling Labor/Chemical Analyses - Year 18	Year 18		\$10,900	\$6,403		
Sampling Labor/Chemical Analyses - Year 19	Year 19		\$10,900	\$6,216		
Sampling Labor/Chemical Analyses - Year 20	Year 20		\$10,900	\$6,035		
Groundwater Monitoring (Year 21 through 30)					Annual monitoring. Assumed 60 percent of the original well network is removed from the SAP due to natural attenuation and effective remedial actions that have reduced concentrations in 30% of the locations to below cleanup levels. Labor - \$5,500/year; analytical \$1,900/year.	
SAP Update	Year 21		\$3,500	\$1,881		
Sampling Labor/Chemical Analyses - Year 21	Year 21		\$7,400	\$3,978		
Sampling Labor/Chemical Analyses - Year 22	Year 22		\$7,400	\$3,862		
Sampling Labor/Chemical Analyses - Year 23	Year 23		\$7,400	\$3,750		
Sampling Labor/Chemical Analyses - Year 24	Year 24		\$7,400	\$3,640		
Sampling Labor/Chemical Analyses - Year 25	Year 25		\$7,400	\$3,534		
Sampling Labor/Chemical Analyses - Year 26	Year 26		\$7,400	\$3,431		
Sampling Labor/Chemical Analyses - Year 27	Year 27		\$7,400	\$3,331		
Sampling Labor/Chemical Analyses - Year 28	Year 28		\$7,400	\$3,234		
Sampling Labor/Chemical Analyses - Year 29	Year 29		\$7,400	\$3,140		
Sampling Labor/Chemical Analyses - Year 30	Year 30		\$7,400	\$3,049		
Investigation-Derived Waste (IDW) Disposal - Water	30	year	\$1,500	\$29,401	Treatment and discharge via sanitary sewer.	
Reporting	30	year	\$25,000	\$490,011	Annual Maintenance and Monitoring Report.	
Long-Term Estimated Cost (Net Present Worth)				\$775,000		
Total Net Present Worth Estimated Cost				\$851,000	Total volume 21.2 M gal., unit cost: \$851,000/21.2 M gal = \$0.04/gal.	

- Notes:
1. Estimated cost was prepared at -30/+50% for relative comparison amongst alternatives.
2. Net present worth cost prepared using discount rate of 3.0 percent (%).
- WFA = West Fueling Area
EFA = East Fueling Area

Table C-2
Alternative 2 - Bioventing (Estimated Cost)

Scope assumptions: The conceptual design assumes the potential expansion of the existing bioventing system to include the following existing and new injection/extraction locations: six locations in the perched zone, eight locations in the WFA, and four locations in the EFA. The expansion includes the potential addition of one well in the WFA Regional Aquifer and one well in the EFA Regional Aquifer, it also includes necessary instrumentation and controls, and manifold refitting. The bioventing system for the perched zone is assumed to include up to two new wells for bioventing and refitting four existing recovery wells for bioventing. Full-scale design may reduce the total number of injection/extraction wells, as a conservative ROI was assumed for this alternative analysis. Semiannual respirometry testing would be completed. Assumes 11 years of continued operation for the WFA Regional Aquifer and Perched Zone and 7 years for the EFA. The EPH fractions are assumed to be below RBSLs in 7 years based on recent groundwater monitoring data, although Table 7 of the FS presents a more conservative estimate. Bioventing would be performed until non-biased groundwater samples (i.e., absence of sheen) can be collected from targeted aquifer wells and submitted for extractable petroleum hydrocarbon (EPH) chemical analyses. **Total LNAPL mass of WFA perched zone and WFA and EFA regional aquifer= 476,000 kilograms**

Item Description	Quantity	Unit	Unit Cost	Extension	Assumptions	Source
Capital for WFA and EFA Alluvial Aquifer						
Connection of two wells to the WFA and WFA Bioventing systems	1	lump sum	\$25,000	\$25,000	Assumes ROI pilot study, design and construction oversight	
Permitting	1	lump sum	\$3,000	\$3,000	City of Missoula right-of-way, including trenching	
Utility Locating	1	lump sum	\$2,500	\$2,500	For new wells	Vendor quote: Magic Valley Utility Locating.
Vacuum Clearance	1	day	\$2,500	\$2,500	For new well s	Vendor Quote PSC Industrial
Bioventing Well Installation (Regional Aquifer) - 6 in WFA and 4 in EFA	10	well	\$4,875	\$49,750	Installation of injection well network. Depth of 75 feet below ground surface (bas). Sonic drilling - \$65/foot.	Vendor quote: Cascade Drilling.
Well Development	10	well	\$750	\$7,500		
Bioventing Equipment	2	unit	\$50,000	\$100,000	Assumes refitting of new wells to exiting manifolds, additional instrumentation and controls, and larger blowers for additional wells.	
Piping Material	1,000	feet	\$5	\$5,000	Assumes PVC pipe to each of the 10 new wells, assuming existing well piping is useable	McMaster Carr Catalogue
Trenching and pipe installation	1,000	Linear Foot	\$30	\$30,000	1000 feet @3 feet wide and 3 feet deep	Vendor Quote: Olympus Technical Services
Excavation Spoil Transport, Grade, and Compact	333	cubic yard	\$25	\$8,333	Assume trench excavation material not impacted; grade and compact on railroad.	
Imported Clean Fill Sampling Chemical Analyses	1	sample	\$488	\$488	Petroleum hydrocarbon, volatile organic compounds (VOCs), metals, polychlorinated biphenyls (PCBs), pesticides, and herbicides.	BNSF contract laboratory.
Imported Clean Fill Material and Transport (Sand)	167	ton	\$35	\$5,833	Bedding sand (1 foot thick in trench).	Vendor Quote Knife River Material Products
Imported Clean Fill Material and Transport (Crushed Rock)	167	ton	\$35	\$5,833	Crushed rock (1 foot thick base material).	Vendor Quote Knife River Material Products
Import Clean Fill Placement and Compaction	222	cubic yard	\$50	\$11,111	Transport and compaction of fill materials	
Investigation-Derived Waste (IDW) Disposal - Soil Cuttings	1	lump sum	\$1,500	\$1,500	High Plains Landfill (Great Falls, Montana).	Landfill tipping fee for BNSF.
Investigation-Derived Waste (IDW) Disposal - Water	1	lump sum	\$1,500	\$1,500	Treatment and discharge via sanitary sewer.	
Engineering Oversight - Well Installation/Development	5	day	\$1,500	\$7,500	\$1,500/day - 10 hour/day labor and other direct costs (ODCs).	
Engineering Oversight - Expanded Regional Aquifer System Startup	2	day	\$1,500	\$3,000		
Bioventing Operations and Monitoring Summary Report	1	lump sum	\$15,000	\$15,000		
Performance Monitoring					Monitor and optimize system performance in alignment with the expansion of the bioventing systems in the Regional Aquifer	KJ Work Order for 2017.
WFA and EFA Bioventing Systems	1	lump sum	\$30,000	\$30,000	System monitoring (flow, pressure, vacuums, etc.). Semiannual respirometry testing.	KJ Work Order for 2017.
Operation and Maintenance						
WFA and EFA Bioventing Systems	1	lump sum	\$20,000	\$20,000	Troubleshooting of equipment, misc. repairs and parts.	KJ Work Order for 2017.
Capital Estimated Cost WFA and EFA Alluvial Aquifer				\$335,000		
Capital for WFA Perched Zone						
Design and install Bioventing System in the Perched Zone	1	lump sum	\$50,000	\$50,000	Assumes design and construction oversight of a new perched zone bioventing system	
Pilot Study	1	lump sum	\$50,000	\$50,000	Pilot study to determine design parameters in perched zone	
Permitting	1	lump sum	\$3,000	\$3,000	City of Missoula right-of-way, including trenching	
Utility Locating	1	lump sum	\$2,500	\$2,500	For new wells	Vendor quote: Magic Valley Utility Locating.
Vacuum Clearance	1	day	\$2,500	\$2,500	For new well s	Vendor Quote PSC Industrial
Bioventing Well Installation (Perched Zone)	7	well	\$3,000	\$21,000	Installation of bioventing well network. Depth of 40 feet below ground surface (bas). Sonic drilling - \$65/foot.	
Well Development	7	well	\$750	\$5,250	Assumes existing and new wells would be developed to maximize air flow in the vadose zone	
Bioventing Compound Construction	1	unit	\$50,000	\$50,000	Concrete Pad retrofits and Building improvements	RS Means 03 30 53.40 0350
Bioventing Equipment	1	unit	\$50,000	\$50,000	System Equipment includes new blowers, manifolds, instrumentation and controls	
Piping Material	4,000	feet	\$5	\$20,000	Assumes PVC pipe to each of the bioventing wells, assuming existing well piping is useable	McMaster Carr Catalogue
Trenching and pipe installation	2,500	Linear Foot	\$30	\$75,000	2500 feet @3 feet wide and 3 feet deep	Vendor Quote: Olympus Technical Services
Excavation Spoil Transport, Grade, and Compact	833	cubic yard	\$25	\$20,833	Assume trench excavation material not impacted; grade and compact on railroad.	
Imported Clean Fill Sampling Chemical Analyses	2	sample	\$488	\$976	Petroleum hydrocarbon, volatile organic compounds (VOCs), metals, polychlorinated biphenyls (PCBs), pesticides, and herbicides.	BNSF contract laboratory.
Imported Clean Fill Material and Transport (Sand)	417	ton	\$35	\$14,583	Bedding sand (1 foot thick in trench).	Vendor Quote Knife River Material Products
Imported Clean Fill Material and Transport (Crushed Rock)	417	ton	\$35	\$14,583	Crushed rock (1 foot thick base material).	Vendor Quote Knife River Material Products
Import Clean Fill Placement and Compaction	556	cubic yard	\$50	\$27,778	Transport and compaction of fill materials	
Investigation-Derived Waste (IDW) Disposal - Soil Cuttings	1	lump sum	\$3,000	\$3,000	High Plains Landfill (Great Falls, Montana).	Landfill tipping fee for BNSF.
Investigation-Derived Waste (IDW) Disposal - Water	1	lump sum	\$3,000	\$3,000	Treatment and discharge via sanitary sewer.	
Engineering Oversight - Well Installation/Development	1	day	\$1,500	\$1,500	\$1,500/day - 10 hour/day labor and other direct costs (ODCs).	
Engineering Oversight - Perched Zone System Installation and Startup	5	day	\$1,500	\$7,500		
Bioventing Operations and Monitoring Summary Report	1	lump sum	\$15,000	\$15,000		
Performance Monitoring					Monitor and optimize system performance in alignment with the new bioventing system installed for Perched Zone remediation	KJ Work Order for 2017.
Perched Zone Bioventing System	1	lump sum	\$20,000	\$20,000	System monitoring (flow, pressure, vacuums, etc.). Semiannual respirometry testing.	KJ Work Order for 2017.
Operation and Maintenance						
Perched Zone Bioventing System	1	lump sum	\$15,000	\$15,000	Troubleshooting of equipment, misc. repairs and parts.	
Capital Estimated Cost WFA Perched Zone				\$474,000		
Long-Term (Net Present Worth)						
Performance Monitoring					Assumes 11 years of continued operation for the WFA and Perched Zones and 7 years for the EFA. Bioventing would be performed until non-biased groundwater samples (i.e., absence of sheen) can be collected from targeted aquifer wells and submitted for EPH chemical analyses.	
WFA Bioventing System	11	year	\$15,000	\$138,789	System monitoring (flow, pressure/vacuum, etc.). Semiannual respirometry testing.	
EFA Bioventing System	22.3	year	\$15,000	\$241,357	System monitoring (flow, pressure/vacuum, etc.). Semiannual respirometry testing.	
WFA Perched Zone Bioventing System	11	year	\$20,000	\$185,052	System monitoring (flow, pressure/vacuum, etc.). Semiannual respirometry testing.	
Operation and Maintenance					Troubleshooting of equipment, miscellaneous repairs and parts.	
WFA Bioventing System	11	year	\$10,000	\$92,526	Troubleshooting of equipment, misc. repairs and parts.	
EFA Bioventing System	22.3	year	\$10,000	\$160,905	Troubleshooting of equipment, misc. repairs and parts.	
WFA Perched Zone Bioventing System	11	year	\$15,000	\$138,789	Troubleshooting of equipment, misc. repairs and parts.	
Annual Reporting - Regional Aquifer	22.3	year	\$10,000	\$160,905		
Annual Reporting - Perched Zone	11	year	\$10,000	\$92,526		
Long-Term Estimated Cost (Net Present Worth) Alluvial Aquifer				\$795,000		
Long-Term Estimated Cost (Net Present Worth) Perched Zone				\$417,000		
Total Net Present Worth Estimated Cost - Alluvial Aquifer				\$1,130,000		
Total Net Present Worth Estimated Cost - Perched Zone				\$891,000		
Total alluvial aquifer and perched zone bioventing cost				\$2,021,000	Total mass of LNAPL is 476,000 kilograms, unit cost: \$1,474,000/476,000 gal = \$3.1/kgl.	

Notes:

- Estimated cost was prepared at ~30/+50% for relative comparison amongst alternatives.
 - Net present worth cost prepared using discount rate of 3.0 percent (%).
- Conceptual Layout Presented on Figure 20 of the 3rd Revised Missoula Feasibility Study Report

WFA = West Fueling Area
EFA = East Fueling Area

Table C-3
Alternative 3 - Natural Source Zone Depletion (NSZD) (Estimated Cost)

Scope Assumptions: 1. Installation of new soil gas monitoring points by Sonic Drilling: 3 points in WFA perched zone with maximum depth of 40 feet below ground surface (bgs), 6 points in WFA regional aquifer with maximum depth of 65 feet bgs and 4 points in EFA regional aquifer with maximum depth of 65 feet bgs and include waste disposal; 2. Conduct NSZD testing at new and existing groundwater wells and soil vapor monitoring locations across the perched zone, and the regional aquifer (at up to 21 total locations). 3. Conduct NSZD testing using Oxygen Profile methods on a semiannual basis at Year 1 and Year 5 of WFA Perched Zone and WFA and EFA regional aquifer; 4. Continue soil gas monitoring in the Regional Aquifer and Perched Zone every 5 years for approximately 30 years (based on estimated degradation rates in Tables 7 and 8 of the FS report). Costs includes annual soil gas monitoring and reporting completed at Years 10, 15, 20, 25 and 30. **Total estimated LNAPL mass 476,000 kilograms**

Item Description	Quantity	Unit	Unit Cost	Extension	Assumptions	Source
Capital						
Work Plan Preparation	1	lump sum	\$25,000	\$25,000		
Utility Locating	1	lump sum	\$2,500	\$2,500		Vendor quote: Magic Valley Utility Locating.
Vacuum Clearance	4	day	\$2,500	\$10,000		Vendor quote: PSC Industrial.
WFA Soil Gas Monitoring Point Installation (Perched Zone)	3	point	\$2,600	\$7,800	Maximum depth of 40 feet below ground surface (bgs). Sonic drilling - \$65/foot.	Vendor quote: Cascade Drilling.
WFA Soil Gas Monitoring Point Installation (Regional Aquifer)	6	point	\$4,225	\$25,350	Maximum depth of 65 feet bgs. Sonic drilling - \$65/foot.	
EFA Soil Gas Monitoring Point Installation (Regional Aquifer)	4	point	\$4,225	\$16,900	Maximum depth of 65 feet bgs. Sonic drilling - \$65/foot.	
Investigation-Derived Waste (IDW) Disposal - Soil Cuttings	1	lump sum	\$1,500	\$1,500	High Plains Landfill (Great Falls, Montana).	
Investigation-Derived Waste (IDW) Disposal - Water	1	lump sum	\$1,500	\$1,500	Treatment and discharge via sanitary sewer.	
Engineering Oversight - Soil Gas Monitoring Point Installation	13	day	\$2,000	\$26,000	\$2,000/day - 10 hour/day labor and other direct costs (ODCs).	
Soil Gas Monitoring (Oxygen Profile Method)	10	day	\$2,000	\$20,000	Semiannual monitoring, includes oxygen and carbon dioxide soil vapor measurements. 5 days per event. \$2,000/day - 10 hour/day labor and other direct costs (ODCs).	
NSZD Summary Report	1	lump sum	\$25,000	\$25,000		
Capital Estimated Cost				\$162,000		
Long-Term monitoring (Net Present Worth)						
Oxygen Profiling and Reporting - Year 5			\$45,000	\$38,817	Soil gas monitoring (WFA perched zone and WFA and EFA regional aquifer) completed at Year 5. Costs includes semiannual soil gas monitoring and annual report completed at Year 5.	
Oxygen Profiling and Reporting - Year 10			\$45,000	\$33,484	Continue soil gas monitoring every 5 years up to 30 years. Costs includes annual soil gas monitoring and reporting completed at Years 10, 15, 20, 25, and 30	
Oxygen Profiling and Reporting - Year 15			\$45,000	\$28,884		
Oxygen Profiling and Reporting - Year 20			\$45,000	\$24,915		
Oxygen Profiling and Reporting - Year 25			\$45,000	\$21,492		
Oxygen Profiling and Reporting - Year 30			\$45,000	\$18,539		
Long-Term Estimated Cost (Net Present Worth)				\$167,000		
Total Net Present Worth Estimated Cost				\$329,000	Total estimated LNAPL mass 476,000 kilograms, unit costs = \$329,000/476,000 kilograms = \$0.69/kilogram	

Notes:
1. Estimated cost was prepared at -30/+50% for relative comparison amongst alternatives.
2. Net present worth cost prepared using discount rate of 3.0 percent (%).
Conceptual Layout Presented on Figure 21 of the 3rd Revised Missoula Feasibility Study Report

WFA = West Fueling Area
EFA = East Fueling Area

Table C-4
Alternative 6 - Monitored Natural Attenuation (MNA) (Estimated Cost)

Scope Assumptions: 1. Additional MNA evaluation consists of monitoring for geochemical parameters nitrate, dissolved iron, dissolved manganese, and sulfate at 12 wells screened in the regional aquifer and 8 wells screened within the perched zone. To establish seasonal trends and geochemical characterization across the facility, data would be collected at upgradient, mid-plume, cross-gradient and downgradient monitoring well locations for four quarters in one year. 2. To establish natural attenuation linear regressions trends for site constituents, analysis of attenuation trends would be conducted for locations consistent with the groundwater monitoring SAP (presented in I-1). Consistent with the 2016 (current) monitoring program, the assumed requirements include wells within the WFA perched zone and regional aquifer and EFA regional aquifer. 3. Prepare an MNA characterization report to document the results and establish initial trend analysis. 4. Sampling frequency consists quarterly geochemical samples for one year and annually from a subset of 10 wells annually from Years 1 through 30. **Total estimated contaminated groundwater volume is 21.2 M gal.**

Item Description	Quantity	Unit	Unit Cost	Extension	Assumptions	Source
Capital						
MNA Sampling and Analysis Plan (SAP) Update	1	lump sum	\$20,000	\$20,000	Submittal to Montana Department of Environmental Quality for review and approval.	BNSF contract laboratory.
Groundwater MNA - Monitoring						
Sampling Labor	15	day	\$2,000	\$30,000	Quarterly events. \$2,000/day including other direct costs (ODCs).	
Chemical Analyses - Volatile Organic Compounds (VOCs)	40	sample	\$60	\$2,400	10 samples per quarter	
Chemical Analyses - Extractable Petroleum Hydrocarbons (EPH)	160	sample	\$45	\$7,200	40 samples per quarter	
Chemical Analyses - Extractable Petroleum Hydrocarbons (EPH) with Fractionation	40	sample	\$100	\$4,000	Assumes 25 percent of EPH samples are fractionated.	
Chemical Analyses - Volatile Petroleum Hydrocarbons (VPH)	20	sample	\$65	\$1,300	5 samples per quarter	
Chemical Analyses - Dissolved Metals (arsenic)	12	sample	\$12	\$144	3 samples per quarter	
Chemical Analyses - Natural Attenuation Geochemical Parameters	80	sample	\$48	\$3,840	Nitrate, dissolved iron/manganese, and sulfate. 20 samples per quarter	
Investigation-Derived Waste (IDW) Disposal - Water	1	year	\$1,500	\$1,500	Treatment and discharge via sanitary sewer.	
Reporting and trend analysis tracking	1	year	\$25,000	\$25,000	MNA Characterization Report.	
Capital Estimated Cost				\$96,000		
Long-Term (Net Present Worth)						
Groundwater MNA - Monitoring - Year 2					Abbreviated annual geochemical monitoring	BNSF contract laboratory.
Sampling Labor	1		\$2,000	\$1,942		
Chemical Analyses	10	sample	\$48	\$409	10 select wells for ongoing annual tracking of MNA geochemical parameters.	
Reporting and trend analysis tracking	1	year	\$7,500	\$7,282	Annual MNA Monitoring Reporting and trend tracking in addition to the annual groundwater monitoring report	
Sampling Labor/Chemical Analyses/Reporting - Years 3 through 30	28	year	\$267,344	\$223,896	Annual MNA monitoring from 10 select wells	
Long-Term Estimated Cost (Net Present Worth)				\$234,000		
Total Net Present Worth Estimated Cost				\$330,000	Total estimated impacted groundwater volume 21.2 M gallons, unit cost: \$330,000/21.2 M gal = \$0.02/gal.	

Notes:

1. Estimated cost was prepared at -30/+50% for relative comparison amongst alternatives.

2. Net present worth cost prepared using discount rate of 3.0 percent (%).

Conceptual Layout Presented on Figure 24 of the 3rd Revised Missoula Feasibility Study Report

WFA = West Fueling Area

EFA = East Fueling Area

APPENDIX D

Compiled Public Comment

Resolution Number 8510

A resolution of the Missoula City Council which finds the Montana Department of Environmental Quality (DEQ) conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood unacceptable and requests recognition of residential use as a future anticipated land use and to appropriately accommodate that use in DEQ's final remedy decision and cleanup plan.

Whereas, the Burlington Northern (BN) Missoula Comprehensive Environmental Cleanup and Responsibility Act (CECRA; also known as State Superfund) Facility has soil and groundwater contaminated with free product diesel fuel, petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAH), volatile organic compounds (VOCs) and metals; and

Whereas, over the past several years DEQ has studied the contamination at the site in anticipation of developing a remediation plan to clean up the Facility; and

Whereas, in developing a remediation plan for the Facility, DEQ evaluates four statutory factors found in Section 75-10-701(18), MCA, to determine the future anticipated land use of the facility, which are: 1) local land and resource use regulations, ordinances, restrictions, or covenants; 2) historical and anticipated uses of the facility; 3) patterns of development in the immediate area; and 4) relevant indications of anticipated land use from the owner of the facility and local planning officials; and

Whereas, the DEQ has developed a Proposed Plan as of February 2021 to identify its preferred final remedy for the Burlington Northern Missoula Superfund Facility that has determined the reasonably anticipated future use of the entire Facility will be commercial/industrial but not residential; and

Whereas, the DEQ's commercial/industrial conclusion regarding anticipated future land uses dictates cleanup to a lower standard than would be required with a conclusion recognizing potential future residential use and may in fact prohibit future residential use should BNSF ever decide to divest itself of any portion of the Facility; and

Whereas the DEQ may revise or select a different remedy based on public comment or new information; and

Whereas zoning for onsite Facility properties is M1R-2 Limited Industrial-Residential which allows by right light industrial and residential use; and

Whereas 320 residential units have been constructed in areas zoned M1R-2 since 2016 and 27 residential units were permitted for construction within 100 feet of the Facility between 2016 and 2020; and

Whereas offsite areas of the Facility are zoned as C1-4, C2-4 or CBD-4 which allow

mixed commercial and residential use and the immediately adjacent areas are primarily residential; and

Whereas, the Our Missoula Growth Policy Land use map designates this area as Community Mixed Use which is described as having "a broad range of functions including retail, education, financial institutions, professional and personal services, offices, residences, and general service activities typify this designation" and that "high density residential development is also encouraged in this area"; and

Whereas, Missoula's Downtown Master Plan labels this area the Railyard District and envisions that:

"In order to serve the needs of a wide range of households, the new neighborhood fabric should include a robust range of uses and housing types. As the surrounding neighborhoods already provide a large proportion of single family homes, this new neighborhood fabric presents an opportunity to enhance options by including types such as rowhouses, live-work units, small apartment buildings and compact mixed-use buildings"; and

Whereas, in the Joint Northside/Westside Neighborhood Plan the neighbors' vision statement reads, "The neighbors' vision for the integration of commercial, industrial, and residential uses attempts to balance the need for jobs, services, and neighborhood economic stability with the equally pressing need for healthy residential neighborhoods," and whereas the Neighborhood plan "encourage[s] an appropriate mix of residential and commercial activities that protects the residential character of the neighborhoods and honors the traditional co-existence of residential, small business, and light industrial uses"; and

Whereas, the Joint Northside/Westside Neighborhood Plan specifically calls for redevelopment of the Facility east of the turntable, should the opportunity arise, for potential uses that include housing, recreation, and commercial uses; and

Now therefore be it resolved that the Missoula City Council finds DEQ's Proposed Plan and preferred remedy for the Burlington Northern Missoula Facility unacceptable; and

Be it further resolved by the Missoula City Council that residential use is a valuable, viable, and anticipated land use of the Burlington Northern Missoula Facility;

Be it finally resolved that the Missoula City Council requests that the DEQ recognize residential use - among a mix of residential and commercial/industrial activities - as an anticipated future land use at the Facility in its cleanup plan and final remedy decision and apply exposure levels appropriate for such use to ensure a healthy environment and neighborhood.

Passed and adopted this 26th day of April, 2021

ATTEST:

/s/ Marth L. Rehbein

Martha L. Rehbein

City Clerk

(SEAL)



APPROVED:

/s/ John Engen

John Engen
Mayor

STATE OF MONTANA)
COUNTY OF MISSOULA)SS
CITY OF MISSOULA)

I hereby certify that the above and foregoing instrument is a true and correct copy, as the same appears upon the records of my office, as Senior Deputy City Clerk for the City of Missoula, Montana


Missoula, Montana

From: [Rachel Torrey](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL]
Date: Thursday, April 29, 2021 8:16:22 AM

Zachary Neudeck and the DEQ:

My name is Rachel Torrey and I live at 336 South Ave E in Missoula, MT.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Rachel Torrey

From: [Laurel Farrell](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL]
Date: Monday, April 26, 2021 8:15:05 PM

Zachary Neudeck and the DEQ:

My name is **Laurel Farrell** and I live at **521 E Pine St in** Missoula, MT. I'm two blocks from the site in question.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

From: [Chandler Padgett](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL]
Date: Sunday, April 25, 2021 4:38:31 PM

Zachary Neudeck and the DEQ:

My name is Chandler P and I live at 3000 S Higgins Ave in Missoula, MT. It is paramount that Montana preserves its environmental quality and beauty, especially near populated areas.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Chandler P

From: [Chandler Padgett](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL]
Date: Sunday, April 25, 2021 4:38:31 PM

Zachary Neudeck and the DEQ:

My name is Chandler P and I live at 3000 S Higgins Ave in Missoula, MT. It is paramount that Montana preserves its environmental quality and beauty, especially near populated areas.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Chandler P

From: [Olivia Fritz](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL]
Date: Friday, April 30, 2021 1:46:22 PM

Zachary Neudeck and the DEQ:

My name is Olivia Fritz and I live on Cooper St, on the Westside of Missoula, MT. I've been living in the same basement apartment for the 5 years I've called Missoula home. Someday I hope to move above ground, but still here, in my neighborhood. Right now, as the housing crisis in Missoula continues to grow worse, the odds of that happening feel very slim. The Northside, where this site is, includes my neighbors, too. It seems very clear, and reasonable, given that this site is already zoned for possible residential use, that it MUST be cleaned to that standard by those who caused it, BNSF. When I go camping or hiking, I leave no trace because I want the people who will use the area after me to enjoy, too. Since BNSF is no longer using this site, they owe us clean and safe land for whatever its next use could be--hopefully housing!! We (Missoula residents, but especially those of us on the Northside/Westside) need all the opportunities we can get. Not only for those of us who are lucky enough to have a roof over our heads, but mainly for the people who've been displaced and are searching for a home, a lifeline. Requiring this land to be safe enough for housing JUST MAKES SENSE! The next few paragraphs I didn't personally write, but they give even more reason and I stand by them. Thank you for reading.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled “East fueling station” is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ’s 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)’s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula’s Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable

anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Olivia Fritz

From: [Tell Us Something](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BN *MUST* clean the Superfund site in Missoula to residential standards
Date: Sunday, March 28, 2021 8:08:59 AM

Dear Zachary:

The Superfund cleanup in Missoula must be done to residential standards based on the DEQ's 4 criteria for "reasonable anticipated use". Housing is definitely a reasonably anticipated use of this area. The responsible party, BN, must be required to clean it up to residential standards.

Observe the DEQ criteria in relation to the Superfund site in question:

1. Current zoning

Current zoning already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years.

3. Current Pattern of Use

The pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the "East fueling station" is currently not being used.

4. Future Use

The site in question is indicated for residential development and use in many City documents: the Downtown Master Plan, Growth Policy, and Northside/Westside Neighborhood Plan.

Missoula is in a housing crisis. The Northside has seen dramatic residential development adjacent to that site in the past several years. Coming from the Buffalo, NY area, you have direct knowledge of the impact a Superfund cleanup has on a residential neighborhood (Love Canal, Morgan Chemicals). In order to do the cleanup right, the cleanup must be done to residential standards.

Please, exercise a sense of concern for future generations of Missoulians and **require that BN clean up the Missoula Superfund site to residential standards.**

Thanks,
Marc

--

Marc Moss
he/him/his • [why pronouns matter \[lgbt.ucsf.edu\]](https://lgbt.ucsf.edu)

Tell Us Something

406-546-3855

[Donate \[tellsomething.org\]](https://tellsomething.org) | [Venmo \[venmo.com\]](https://venmo.com) | [Paypal \[paypal.me\]](https://paypal.me)

[Click here to add Missoula Gives to your calendar! May 6-7, 2020 \[evt.to\]](#)

From: [Audrey Elias](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BN Missoula Comprehensive Cleanup Public Comment
Date: Wednesday, March 31, 2021 10:19:14 AM

Good morning! Thank you for the opportunity to submit a comment regarding the proposed remedy for the BN Missoula Comprehensive Environmental Cleanup. current zoning is M1R which allows residential development

The DEQ's proposed finding of reasonable anticipated use as industrial only is unsupported and unacceptable. All city documents, recent redevelopment, and current zoning describe this area as optimal for residential development rather than industrial.

I live in the Northside Missoula neighborhood, and drive, bike, and walk by the cleanup site every day. I know the neighborhood and have watched redevelopment happen. The area is surrounded by residential use. Additionally, recent redevelopment next door to site is purely residential. The affected area has not been used as a railyard or other industrial use for years. While there are businesses in the area immediately around Orange Street, including a brewery, the area immediately around the affected area is residential.

This is recognized in both the Downtown Master Plan and Our Missoula Growth Policy, both of which are longstanding and support continued residential use of this area. Thus the anticipated use of the area, which has been made very clear for several years and is thus reasonably anticipated by any organization or agency, is residential. The proposed finding of reasonable anticipated use as industrial or light industrial denies the existence of every existing plan. The area should be cleaned to residential use for the benefit of the community as a whole.

Audrey Elias
708 Palmer Street

From: [John Ryan](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BN Missoula Facility Cleanup
Date: Friday, April 23, 2021 10:32:02 AM

Dear Mr. Neudeck,

Please remediate the BN Facility in downtown Missoula to residential standards as requested by the Missoula City Council. Besides the city's laudable goal of increasing the amount of land available for much needed new housing, it is simply unconscionable not to clean this piece of land, in the center of Montana's second largest city, to the highest possible standards.

Thank you for considering my concerns.

John Ryan
1221 Howell St.
Missoula MT 59802

From: [Teagan Hayes](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BN Missoula Facility Superfund cleanup comments
Date: Monday, March 29, 2021 5:52:37 PM

To Montana DEQ:

I take issue with the proposed plan for cleanup at the BN facility in Missoula. The plan proposes that BN only clean the site up to commercial standards (instead of the residential standards) based on *faulty* findings of "reasonable anticipated use."

In reality, housing *is* a reasonably anticipated future use within DEQ's criteria, as I describe below.

1. Current zoning: Current zoning *already allows* mixed residential and commercial use.
2. Historical Use: I recognize that this site was historically used as a railyard and fueling station. However, a large part of this area has not been used as a railyard for decades and is not currently in use at all.
3. Current Pattern of Use: Therefore, the pattern of use is actually trending toward the overall area being used *less* as a railyard over time. In fact, the "East fueling station" is currently not being used at all. Furthermore, the proposed plan would allow this to be a staging area to store topsoil, suggesting that if it can be used for soil storage, it is definitely not in use.
4. Future Use: The BN site is indicated for residential development and use in many City documents, including the Downtown Master Plan, Growth Policy, and Northside/Westside Neighborhood Plan. Missoula has a major need for housing and residential areas. Adjacent areas of the Northside (and areas along the railroad tracks) have been developed for residential use in recent years.

To sum up my comments, I believe that the proposed plan's anticipated use is not accurate. Residential housing is a reasonably anticipated use of this site, based on the 4 criteria above. I strongly believe that Burlington Northern should be required to clean it up to residential standards.

Thank you for your consideration of my comment.

Teagan Hayes

From: [Lauren Sullivan](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BN Missoula superfund- comment
Date: Saturday, April 24, 2021 10:54:58 AM

As a longtime resident and member of the Missoula community, I strongly urge DEQ to select the most comprehensive and stringent cleanup option for the Burlington Northern Missoula facility state superfund site. DEQ must consider current and reasonable anticipated future use of the facility and thus must consider Missoula's master plan which has undergone extensive public participation to develop. There is not only a need (due to the current housing crisis) but a desire voiced by the Missoula community to eventually develop this site as mixed residential.

Furthermore, the map outlining the perimeter of the contaminated site appears to include some homes on E. Alder St. How would DEQ address this and those residents if it did not clean up to meet residential standards? What would that mean for the current and future safety of their property? Moreover, is there evidence the underground contamination moving south towards Spruce street? That area has many homes with families. How will DEQ consider the underground fate and transport of contaminants towards residential properties in the selection of which clean up option to choose?

Again, I urge DEQ to select the most stringent clean up option to ensure safety of current and future residents and to meet the demands and desires of the Missoula community regarding future development plans.

Thanks for the opportunity to comment.

Lauren Sullivan

From: [ben weiss](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BN Northside Superfund Site in Missoula
Date: Monday, March 29, 2021 2:23:56 PM

Zachary,

Thank you for providing an opportunity to comment on the DEQ recommendations for the Burlington-Northern Superfund Site on Missoula's Northside.

I am writing to ask the DEQ to recommend clean up of this site to full residential standards. Increasing opportunities for housing in Missoula is vital to our community, and it is reasonably anticipated that this area will be redeveloped with residential at the forefront. This area is currently zoned as mixed use, allowing residential and commercial development. The City's Growth Policy and Downtown Master Plan all envision housing in this area. From a transportation perspective, it is critical to locate housing in close proximity to other services. This site, just over the tracks from downtown, is ideal for residential development.

With the costs of homes rising exponentially over the last few years, it is not hyperbole to state that Missoula is in a housing crisis right now. Any and all tools that create opportunities for good residential development should be made available. Getting this site cleaned up to residential standards can help us construct more housing. Limiting future development by not requiring residential level clean up will most certainly exacerbate existing problems.

Please help Missoula by requiring the BN superfund site be cleaned to residential standards. Thank you for your consideration,

--

Ben

From: [Rachel Dierken](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BN Northside Superfund Site Public Comment
Date: Monday, April 05, 2021 10:37:13 PM

Dear Zac,

I hope this email finds you well. I'm writing today to submit a public comment for the proposed plan for the Burlington Northern Missoula State Superfund Facility on Missoula's northside.

As a northside resident since 2019, I feel it's important to hold Burlington Northern responsible for cleaning up the superfund site to residential standards. I've outlined why I feel this is a reasonable request.

Mixed residential and commercial use is allowed under the current zoning and, while the site has historically been used as a railyard and fueling station, a large portion of the area is not. The current pattern of use is shifting further away from use as a railyard as some areas are not in use at all, evidenced by a large pile of topsoil stored on the property.

As a resident of Missoula, specifically on the Northside, it's obvious we are facing a housing crisis in Missoula. Development for housing on the Northside is necessary, and to say there isn't reasonably anticipated future use in an area already zoned for residential standards doesn't make any sense. Multiple development plans by various Missoula organizations including the city have proposed housing development on the Northside as a goal.

It would be unfair, and frankly immoral, to rule that Burlington Northern should only be responsible to clean the superfund site to commercial standards when it is not only reasonable, but obvious that residential development is an anticipated future use for the site.

Thank you for your time and please let me know if you have any questions.

Best,

Rachel E. Dierken
(she/her/hers)
rachel@dierken.com

629 N 4th St. W
Missoula, MT 59802
(406) 360-4134

From: [Terri Roberts](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BNSF Cleanup in Missoula
Date: Monday, April 26, 2021 12:20:58 PM

Zachary Neudeck and the DEQ:

My name is Terri Roberts and I live at 1600 Sherwood St. in Missoula, MT. Our city is becoming unaffordable for the average resident and we need to construct housing for those who work essential jobs but do not earn a living wage. Our housing insecure numbers increase every month and having been in that category much of my adult life in Missoula - I am very concerned for my fellow citizens. The land in question could be viable if DEQ does the right thing by requiring cleanup to be at residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Terri Roberts

From: [Katie Racette](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BNSF Missoula Cleanup
Date: Thursday, April 29, 2021 12:07:30 PM

Zachary Neudeck and the DEQ:

Hello, my name is Katie Racette, and I live at 935 Worden Ave Apt 1, Missoula MT 59802. I am writing because I believe your conclusion that the BNSF cleanup in Missoula should not be cleaned up to residential standards is NOT acceptable. This is my neighborhood. I live only a few blocks from this site.

This area should be cleaned up in order to provide more housing options for the growing city of Missoula. I live and work in this community and can no longer afford to buy a home here. By cleaning up this site to residential standards, you can help the housing crisis in Missoula. We need more housing. This site should be cleaned up to residential standards, so it is a viable option for future housing developments to help ease the current housing crisis.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Katie Racette

From: [Nicholas Grener](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BNSF Missoula Facility Cleanup
Date: Sunday, April 04, 2021 10:37:11 AM

Hello Zachary, I write to you as a long-time resident of the Missoula Northside neighborhood regarding the remediation plan for the BNSF rail yard.

Over the past 10 years- and particularly in the last 2 to 3 years- there has been an intense demand for housing in my neighborhood. For example, a friend of mine who owns a company that buys available lots in the Northside neighborhood and develops single-family homes on them presently has a three year backlog of work. Further evidence is given by the rapidity with which all of the affordable homes that have been built off of Scott St. have been purchased. More germane for the property in question, there have been multiple new housing developments built along 2nd St. North adjacent to (or nearly adjacent to) the BNSF property in just the last year. All of these projects have brought a vibrancy to my neighborhood that was lacking when I first moved here, as well as housing options to meet the needs of the full spectrum of our community's residents. I write with a strong interest in seeing this type of "in-fill" development continue (as long as it is done with an eye towards providing affordable options), and want to make it clear that the DEQ findings of reasonable anticipated use for the BNSF rail yard miss the mark. It is not just plausible, but extremely likely, that were the BNSF railyard to be cleaned up to residential standards, there would be a number of interested parties looking to purchase and develop that land for housing.

I also have a firm belief in corporate responsibility, and am outraged when companies externalize their costs and force the ambient community to absorb them.

I therefore see the BNSF rail yard property cleanup as a prime opportunity to simultaneously 1) hold BNSF accountable for returning the land in question as near as possible to the qualities it possessed prior to the decades of leaking free diesel that degraded the soil, and 2) produce- in time- a large parcel of desirable, affordable residential units that will not displace any current residents (there are not many pieces of land in the core of Missoula that fit this definition!).

My local city and county governments agree with me, as I am sure you have seen in the Downtown Master Plan documents. We can make something great for the current and future residents of Missoula on this land if we are given the opportunity to do so! In summary, I am asking the DEQ to do right by the community of Missoula and require BNSF to pay for the costs of remediating this land to residential standards.

I thank you and your colleagues for your consideration of these ideas, as well as for all of the work you put into these and similar projects affecting the future of Montana. Please write back if you have any questions.

Sincerely, Nick Grener

From: [shannon.rose](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BNSF Missoula Remediation
Date: Sunday, May 02, 2021 9:26:02 PM

Dear Zachary Neudeck, the DEQ and to whomever else it may concern,

My name is Shannon Driscoll, I live at 232 N 1st St. West, Missoula. I am writing out of concern about the superfund site that sits at the corner of my street. I moved here from Butte not long ago and I cannot help but think of the Berkeley Pit, and the shirking of responsibility on the part of different companies and how that lack of appropriate response has cost people's health and environmental health, as well as years of litigation, time and money.

I do not mean to say the two sites are comparable in their damage, but rather that you have the opportunity at this point to ensure that BNSF, the company responsible for polluting this piece of land, is held accountable in the remediation of the land. The clean up needs to go further than what the DEQ has determined appropriate. BNSF needs to remediate the land to the point that it can provide housing in the near future.

I urge you, please do not allow BNSF to take any shortcuts or give them any out, in regards to restoring the health of my neighborhood.

Thank you for your time,
Shannon R Driscoll

Sent from my iPhone

From: [Mark Anderlik](#)
To: [Neudeck, Zachary](#)
Cc: ["Sam Duncan"](#)
Subject: [EXTERNAL] BNSF Missoula Superfund Site
Date: Thursday, March 25, 2021 6:32:16 PM

To whom it concerns:

The fact that BNSF was originally funded by massive Federal land grants when the line through my neighborhood was built; and that over the years the railroad has unethically profited mightily from the sale of that land; there is no reason on earth to not clean up their yard to residential standards. The government subsidized BNSF, the company broke the agreement of that subsidy, therefore they should be made to pay the FULL cost of their pollution in my neighborhood. Thank you.

Mark Anderlik
1617 Defoe St.
Missoula, MT 59802
manderlik@igc.org
406-207-1884 cell/text

From: [Chelsea von Hasseln](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BNSF Northside Superfund Site
Date: Saturday, May 01, 2021 12:46:54 PM

To Zachary Neudeck and the DEQ:

My name is Chelsea and I live at 2 Braaten Pl. in Missoula, MT. Most of my friend group lives on the Northside and I spend a lot of time there. My husband and I had an offer accepted on a house there right before the pandemic hit, which unfortunately fell through. But all this to say, I care about the Northside neighborhood and the people who live there.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in the Northside neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Chelsea von Hasseln

--

Sent from Gmail Mobile

From: [Corti, Dan](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BNSF railyard comment
Date: Friday, April 23, 2021 9:28:42 AM

Good Morning Mr. Neudeck,

I am writing to recommend that the DEQ follow its proposed preferred alternatives and NOT follow the Missoula City Council, Board of Commissioners and Board of Health requests to require the clean up of portions of the railyard to residential standards at this time.

If there was any indication that all or portions of the property were to be vacated by BNSF in the reasonably anticipated future, I would be making a recommendation in line with elected officials but that is not the case. In fact, the County Commissioners are actively promoting passenger rail service through Missoula which if anything makes the anticipated use of the property for railroad use longer, not shorter.

I am not an attorney so I say with no legal basis that this feels like a taking in the sense that Missoula officials are requesting a private entity to clean up their site to an expensive standard with no plan for it to enter private developer or public ownership. The future value of money spent on the site today to clean it up to residential standards could be very large and seemingly unfair.

No one is arguing with the risk assessment so the only logical reason for cleaning up the site beyond the proposed alternatives is so that someone else pays today for what Missoula officials want tomorrow. While affordable housing is a public health issue, it is hard for me to conceptualize how it is the role of the DEQ to force that change on a private company.

I am not writing on behalf of any other individual or entity.

Thank you for your consideration of my comments.

Sincerely,

Dan Corti
11295 Obrien Creek Road
Missoula, MT 59804

From: [Fred](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] BNSF/Affordable housing
Date: Sunday, May 02, 2021 8:50:09 PM

My name is **Oivind Westereng** and I live in **Missoula, MT**.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City

documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

In conclusion, based on the 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Oivind Westereng

From: [reed ford](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Norther Missoula Facility Cleanup
Date: Saturday, May 01, 2021 11:59:13 AM

Zachary Neudeck and the DEQ:

My name is Reed Ford and I live at 1515 Ashberry Ct in Missoula, MT. I care deeply about having this site cleaned to residential standards, because I am a Missoulian that is facing housing insecurity and know that this site could make a big difference in Missoula's housing future.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled “East fueling station” is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently

noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Reed Ford

From: [chris moyles](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern (BN) Missoula Facility.
Date: Friday, March 26, 2021 2:46:28 PM

Re: Burlington Northern (BN) Missoula Facility. This site should be remediated to residential standards, as it is an integral part of the infill growth plan for Missoula.

From: [Jason Wiener](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern (BN) Missoula Facility
Date: Sunday, March 28, 2021 8:17:03 PM

Good morning.

Please consider this comment in opposition to the proposed remedy of the current Proposed Plan for clean up of the Burlington Northern (BN) Missoula Facility and in support of both an extended comment period and eventual Plan that includes residential-level clean up.

As with other polluted property in the urban core of Missoula, the reasonably anticipated future uses of the railyard include residential uses. Assertion otherwise ignores both the context of the railyard and the current community plans concerning the area as well as recent similar parcels like Lee Gordon Place, White Pine Sash and the Riverfront Triangle.

Both of the local governments impacted have submitted detailed comment on the proposed remedy and I support those comments. Further, I urge an extension of the comment period due to the high level of interest and the stakes for a cleanup this central to the city. Given the century of pollution, a few extra weeks to ensure the best outcome seems trivial.

The proposed remedy ought not stop at commercial cleanup levels. The future uses will not, leaving only the question of whether the entity that polluted will restore the land.

Thanks for your consideration.

Jason Wiener
610 N 3rd St W
Missoula, MT 59802

From: sjoyce@gmail.com
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern (BN) Missoula Facility
Date: Tuesday, March 30, 2021 2:09:52 PM

This cleanup is in a critical area for Missoula's master development plan. It is perfect for mixed development, including commercial and residential. The residential is planned to be both market rate and deed restricted affordable housing. There is no reason that this cleanup should be held to a lesser, fairly useless standard that would only be acceptable for an inappropriate land use given the location.

Steve Joyce
919-539-4401
sjoyce@gmail.com

From: [Allison Ramsey](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern Clean Up
Date: Tuesday, April 06, 2021 10:01:08 AM

Zac,

Missoula's severe lack of housing, specifically affordable housing would be improved if Burlington Northern cleaned up their site to residential standards. They contaminated the site and should be required to clean it up!

--

Allison Ramsey
Portico Real Estate
406.546.0971

From: [Susan Ellerman](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern Missoula Facility clean up
Date: Wednesday, April 28, 2021 8:58:32 AM

Zachary Neudeck and the DEQ:

My name is Sue Ellerman and I live at 725 Stoddard Street in Missoula, MT. I have lived on the Northside of Missoula for over 23 years. This is our third house that we have owned in the Northside neighborhood. We have adopted a memorial tree in the Northside Park for our son who passed in 2017, a tree that he and his friends used to climb. The reason I tell you this is because this neighborhood is important to me and my family and many other families in this neighborhood. We live here and deserve to have a safe and clean environment that is conducive to living and playing without concern of contaminants from this Superfund site. In addition, this Superfund site could be developed into additional housing that Missoula desperately needs as we currently have a 0-1% rental vacancy rate.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled “East fueling station” is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Sue Ellerman
725 Stoddard Street
Missoula, MT 59802
406-546-7032

From: [Steven Pulito](#)
To: [Neudeck, Zachary](#)
Cc: [Kirsten Vorreyer](#)
Subject: [EXTERNAL] Burlington Northern Missoula Facility cleanup
Date: Friday, April 02, 2021 11:38:45 AM

Zachary,

My wife and myself on behalf of the Missoula community and with the future of Missoula in mind and our young son want to register our opinion that the Burlington Northern Missoula Facility should 100% be cleaned up to residential standards and anything less is a disservice to the community. Missoula is a vibrant community that is experiencing rapid growth as a result and we will need every bit of land available for building residential neighborhoods while still preserving some of our natural areas in the years to come. The rail yard is particularly well suited in location to future housing.

Thank you for your consideration,

Steve and Kirsten
1120 Phillips St
Missoula MT 59802

From: [Eric Buhler](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern Missoula Facility in Missoula's Northside neighborhood
Date: Monday, April 26, 2021 9:17:44 PM

Zachary Neudeck and the DEQ:

My name is Eric Buhler and I live at 2311 W Foothills Dr in Missoula, MT.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's responsibility to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Eric Buhler
406-403-6469

From: [J Harrington](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern Missoula Facility on Missoula's Northside
Date: Thursday, April 29, 2021 2:42:33 PM

Zachary Neudeck and the DEQ:

Growing up on the Northside of Missoula, we were surrounded by Superfund sites. Missoula White Pine and Sash, BN site, Clark Fork River, Milltown, Smurfit Stone, etc...

The exposure to contaminants of concern across a lifetime is becoming an increasing hazard for long-term residents and more aggressive action needs to be taken by the DEQ and the EPA to mitigate and eliminate these environmental hazards.

DEQ completed the baseline risk assessment in 2015. Also, in 2015 a residential surface soil and background soil sampling work plan investigated background concentrations of PAHs in surface soil in Missoula and in residential yards adjacent to the facility. In 2016, DEQ reviewed and provided comment on BN's initial draft of the FS and determined additional residential soil sampling was required based on the results of the 2015 sampling efforts. This sampling was completed in October and December of 2016 and BN submitted a sampling data report. Then in 2017 the EPA updated the toxicity data for benzo(a)pyrene which changed the PAH site-specific clean-up (SSCL) level from 0.23 mg/kg to 1.7 mg/kg. This change reduced the risk of the offsite residential levels to below the threshold for clean-up. The final FS demonstrates where they found exceedances and unacceptable risks for PAHs in surface soil onsite and offsite associated with residential exposure. Mainly we were looking at the exceedances from figures 10-12 in the FS. The one location that was highlighted was 210 N 2nd E and had discrete sample concentrations of 2.83 and 2.05 mg/kg. The acceptable limits of certain COC's changing from more protective to less protective, has long-term adverse consequences for neighborhoods like the Northside.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents,

including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Jen Harrington

From: [Alena Furlong](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern Missoula Facility Public Comment
Date: Monday, April 05, 2021 8:28:23 PM

Dear Mr. Neudeck,

I'm writing to let you know that I think the Burlington Northern Missoula Facility should be cleaned up to residential standards, not just the industrial standards currently proposed by the DEQ. Any proposed cleanup should be done to the highest possible standards. Missoula is in an active housing crisis and having this land available for all purposes, especially residential, just makes sense. Please amend your plan to clean up the site to residential standards.

Thank you for your work and consideration,
Alena Furlong
2629 Queen St.
Missoula, MT 59801

From: [Nick Furlong](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern Missoula Facility Public Comment
Date: Monday, April 05, 2021 8:32:45 PM

Dear Mr. Neudeck,

Thank you for accepting public comments on the cleanup. I strongly know that the Burlington Northern Missoula Facility should be cleaned up to residential standards, not just the industrial standards currently proposed by the DEQ. This is a professional opinion as a palliative care physician whom sees cancer patients most days I work. These toxins have been shown to cause cancer and this obviously shortens life expectancy and creates a poor quality of life. With this, it makes sense to raise the standards to residential status.

Thank you for your work and consideration,
Nick Furlong, M.D.
2629 Queen St.
Missoula, MT 59801

P.S. This is my professional opinion and does not necessarily represent my employer.

From: [Libby](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern Missoula Facility
Date: Wednesday, April 28, 2021 4:57:49 PM

Zachary Neudeck and the DEQ:

My name is Libby Miller and I live at 931 Stoddard Street in Missoula, MT. I believe that the DEQ needs to exercise its authority to create a clean and healthy environment for all Montana's citizens. They should not limit our options for the future use of this site, which could be home to future homes that Missoulians can afford.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently

noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Libby Miller

Sent from my iPhone

From: [Smai Fullerton](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington Northern Missoula Facility
Date: Saturday, May 01, 2021 11:52:40 AM

Zachary Neudeck and the DEQ:

My name is Smai Fullerton and I live in the South Hills in Missoula, MT. I am extremely concerned about the lack of affordable housing in our community and the crisis the housing market has already and will continue to create for Missoula residents.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our

growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

In conclusion, based on the 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's responsibility to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,
Smai Fullerton

From: [erin.carey](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Burlington northern
Date: Saturday, April 24, 2021 1:19:34 PM

I'm a resident of the Northside neighborhood in Missoula. I would like to see the Burlington Northern site cleaned to residential standards to ensure the neighborhood isn't cheated out of proper cleanup and the full range of future development opportunities.

Thanks
Erin Carey

Sent from my iPhone

From: [Samantha Mistry](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Clean it up!
Date: Thursday, April 29, 2021 9:00:20 PM

Zachary Neudeck and the DEQ:

My name is Samantha Balk and I live at 235 N 1st ST W suite D in Missoula, MT. My family, including our two year old daughter live next to this site. She plays in the dirt. Our dog drinks out of puddles. The health & safety of our community is extremely important to us. This site needs to be cleaned up so housing can be built.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled “East fueling station” is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Samantha Balk

From: [Beverly](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Clean up of the Northside Missoula Railyard
Date: Tuesday, April 27, 2021 7:30:35 AM

Zachary Neudeck and Montana DEQ:

My name is Beverly Dupree and I live on North 4th Street in Missoula's Northside neighborhood. I've lived here for 25 years.

Thanks for the extension of the comment period and for the opportunity to comment on the proposed clean-up of the BNSF railyard. Please consider the other potential uses for the land on this site and please require BNSF to clean it up accordingly. It seems that the owners of this land may be missing out on some incredible development opportunities given the current market in Missoula and also given the zoning allows for mixed residential and commercial use.

I support the Missoula City Council's resolution to clean up the area to residential standards.

I would also like to suggest that the railyard be moved out of downtown Missoula to the west, possibly even to the Smurfit Stone location. There is a lot of dust and debris from the current activities in the railyard, and my house is often covered in soot. This clearly is a health risk.

With that in mind, I ask that you pay particular attention to the following of the DEQ's seven criteria when choosing how to clean up the railyard:

- *protect public health, safety, and welfare and the environment; and
- *demonstrate mitigation of exposure to unacceptable risks to public health, safety, welfare and the environment.

Thank you,
Beverly

From: [Bianca Villalobos](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Clean Up the Burlington Northern Missoula Facility to Residential Standards!
Date: Saturday, May 01, 2021 12:01:04 PM

Zachary Neudeck and the DEQ:

My name is Bianca Villalobos and I live at 1515 Ashberry Ct in Missoula, MT.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Bianca Villalobos

From: [Kari Neal](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] clean up
Date: Wednesday, April 28, 2021 3:30:15 PM

Zachary Neudeck and the DEQ:

My name is Kari Neal and I live at 1401 Cedar Street in Missoula, MT. [I am aware of this superfund site in my neighborhood and want to help ensure I speak up to help protect future generations and my current neighbors.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Kari Neal

Westside Homeowner

From: [thula weisel](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Cleaning to residential standards
Date: Friday, April 02, 2021 10:41:29 AM

To help achieve more affordable housing opportunities in Missoula, I support cleaning the 42 acre area north of downtown Missoula to residential standards. This is an opportunity we won't get again.

Sent from my iPad

From: [Jerry Wolf](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Comment on BN proposed plan
Date: Friday, April 02, 2021 11:33:16 PM

I do not agree with the proposed plan. As a taxpayer in Missoula, I feel the decision to not clean up the site to meet residential standards is a mistake. The land needs to be restored to the original pristine state and fear taxpayers will end up having to pay for this poor DEQ choice. Thanks for listening.

Geraldine Wolf
1144 S. 4th St. W.
Missoula, MT
59801

Sent from my iPhone

From: [Emily Plant](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Comment on rail yard in missoula
Date: Thursday, April 01, 2021 10:25:06 PM

Hello, I'd like to offer my comment on the rail yard cleanup.

Burlington Northern should absolutely be held accountable to clean that area up to "residential" standing! Obviously this area is unhealthy to residents and our soil and ground water, and the polluters should be made to do a full cleanup to protect the health and welfare of residents. This is the intent of the superfund program- hold them accountable! This is our chance to exercise this right.

The in-town rail yard is a relic of a different era- just because they've been doing things there for 100 years doesn't mean we should sit idly by while they continue to use our beautiful city as a dumping ground.

Emily Plant
Missoula Montana

From: [Bob Giordano](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] comment on railyard cleanup downtown missoula, MIST
Date: Friday, April 23, 2021 4:45:29 PM

Hello,

Please accept these comments on the proposed cleanup of the railyard in downtown Missoula:

The cleanup needs to be to the highest standard available.

There will almost certainly be residential and mixed used development on this site.

Missoula planning documents- crafted with robust public process- have identified people living on this site in the future.

A railyard does not belong in the heart of Missoula.

The site is toxic and needs to be cleaned up ASAP.

There will be people walking, biking and playing on this site in the future; within 20 years is what we strongly believe.

It is unfair, unjust and discriminatory to not clean this site up from toxic pollution, to residential standards.

The cleanup needs to be expedited, for the health and safety of all.

Thank you,

Bob Giordano, Director,
Missoula Institute for Sustainable Transportation
mist@strans.org

From: [Ben Brewer](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Dear Mr. Neudel
Date: Friday, April 02, 2021 11:42:54 AM

I would like to express my deep concern that the clean up of the Burlington Northern Missoula Facility is not done to an appropriate level where it would allow for residential use. Our city is constrained on all sides by mountains which limit the ability for us to grow out. Land is a precious commodity, and right now we are facing an extremely urgent housing crisis. We need to make land available for housing as much as possible, especially land that is located so centrally within the city center. I strongly urge that DEQ require a more stringent clean up of this site than for industrial purposes only.

Thank you for your time and consideration.

Regards, -Ben Brewer

--

-Ben Brewer

2218 Greenough Ct. Missoula, MT, 59802

C.P.: (415) 828-8988

bbrewer1153@gmail.com

From: [Courtney Murphy](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] DEQ Waste Management and Remediation
Date: Monday, April 26, 2021 8:47:49 PM

Zachary Neudeck and the DEQ:

My name is Courtney Murphy and I live at 610 n 2nd st w in Missoula, MT. I live near the Superfund site and I am writing to urge you to clean up the site to residential standards. For the safe and health of the community currently living here, as well as people moving into the housing planned for that spot. We all deserve to live in a safe and healthy environment.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Courtney Murphy



Sender notified by
[\[mailtrack.io\]](#) [Mailtrack \[mailtrack.io\]](#)

--

www.courtneymurphy.net [\[courtneymurphy.net\]](#)

From: [James Wood](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Extension of DEQ public comment period
Date: Saturday, March 27, 2021 9:41:20 AM

Mr. Neudeck: I recently became aware of the plans concerning the BNSF railyard and the attempt to mitigate its cleanup. I have been a resident of the Northside for almost forty years and am very concerned about the ongoing health threat represented by having yet another Superfund site so close to my neighborhood. Our wells have already been shut down due to contamination of our ground water from the operation of the White Pine Sash company. My home is much closer to the railyard and to find that the DEQ is considering only a partial remediation of the contamination of that site is troubling. I would like to request that the period for public comment be extended so that more people who might be affected by DEQ's apparent determination might become more familiar with this situation and voice their concerns. Thank you for your consideration in this matter.

Sincerely,

James Wood
705 N. 4th W.
Msla 59802

406 542-2240

From: [Ric Mcleod](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] just look at missoula northside lot
Date: Monday, April 26, 2021 2:56:45 PM

Hi Zac I've written before but if you look at this site, You will see all expanding residential development. Directly west adjoining this property I have an upscale residential project recently constructed. Please reconsider and have the property brought up to presidential standards.
Thank you
Ric Mcleod

From: [Susan Sylvester](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula BNSF cleanup
Date: Monday, April 05, 2021 11:46:16 AM

Please insist that they completely clean up their mess, who knows what the future holds and nobody else should ever have to deal with this. I am skeptical that the toxins are somehow contained, never to be seen again with industrial standards. Susan Sylvester Neff and Richard A. Neff

From: [Terri](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula BNSF Rail Yard Cleanup
Date: Monday, April 05, 2021 10:58:38 AM

PLEASE clean up the BNSF rail yard in Missoula to residential rather than industrial standards. Missoula is facing an unprecedented housing shortage in addition to having a shallow water aquifer. It seems foolish to clean the industrial waste to only meet industrial standards. It has taken 35 years of study to determine the extent of the waste in the area. Let's clean the area thoroughly while there is an opportunity to do so. Clean up of the White Pine Sash waste has led to increased housing opportunities in Missoula. Clean up of the rail yard could do the same.

Sincerely,
Terri Roach
Missoula, MT

Sent from my iPad

From: [Janet Bush](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula BNSF Railyard Superfund Cleanup
Date: Tuesday, April 27, 2021 3:05:41 PM

Dear Zachary,

I have lived in the vicinity of the Missoula BNSF rail yard for over 40 years. Currently I reside within two block of the tracks on North 3rd Street.

As Missoula grows and housing is in greater demand, I see new homes creeping closer and closer to the tracks.

That's why, to protect Missoula's North Side and Westside residents from toxic groundwater and topsoil, I urge DEQ to clean up the rail yard to RESIDENTIAL standards.

Thank you for inviting our input.

Sincerely,

Janet Bush
702 N 3rd St W
Missoula MT 59802

From: [Gretchen Hooker](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula Northside Burlington Northern rail yard Superfund site
Date: Monday, March 29, 2021 4:37:06 PM

Dear Zachary,

I know you are probably seeing a lot of emails recently, so I'll keep this short and to the point. I believe it is important that DEQ require Burlington Northern to clean up the rail yard site to RESIDENTIAL standards. Anything less would be a wasted opportunity and a finger in the eye of the City of Missoula.

Current zoning already allows mixed residential use in this area and the City's downtown master plan lays out a vision for additional housing in this area. The current pattern of development is toward increasing housing density on the Northside, and elsewhere in central Missoula. The clean up should support this trend, not leave barriers. Missoula is experiencing a housing crisis and if we are to responsibly provide for housing and preserve open space, we need to increase urban densities by cleaning up and developing open land within the urban core.

Thank you,
Gretchen Hooker
Missoula Resident

From: [John Knight](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula Northside Superfund Site
Date: Friday, April 30, 2021 3:59:37 PM

Dear Zachary Neudeck and the DEQ,

My name is John Knight and I live at 328 E Pine St. in Missoula, MT. I ask that DEQ require BNSF to clean up the Northside of Missoula superfund site to residential standards! Housing is desperately needed in Missoula, and BNSF has continually polluted the land. It is their responsibility to clean it up as best as possible, for residential use! Cleaning up this site to commercial standards leaves taxpayers and the city of Missoula to foot the bill.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled “East fueling station” is currently not

being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

From: [Brace Hayden](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula Northside/Westside Toxic Railyard Mitigation in our Neighborhood
Date: Sunday, April 04, 2021 9:01:44 AM

To Whom It May Concern at the Montana DEQ:

I am writing in regards to the proposed plan for cleanup at the BN facility in my N/W neighborhood in Missoula. Changes you can make for future residents has a lasting impact on neighborhood vitality, health and civic pride.

The plan proposes that BN only clean the site up to commercial standards (instead of the **residential** standards) based on inadequate and misconstrued findings of "reasonable anticipated use."

In reality, future homes are anticipated in this area and are within DEQ's criteria:

1. Current zoning: Current zoning *already allows* mixed residential and commercial use.
2. Historical Use: I recognize that this site was historically used as a railyard and fueling station. However, a large part of this area has not been used as a railyard for decades and is not currently in use at all.
3. Current Pattern of Use: Therefore, the pattern of use is actually trending toward the overall area being used *less* as a railyard over time. In fact, the "East fueling station" is currently not being used at all. Furthermore, the proposed plan would allow this to be a staging area to store topsoil, suggesting that if it can be used for soil storage, it is definitely not in use.
4. Future Use: The BN site is indicated for residential development and use in many City documents, including the Downtown Master Plan, Growth Policy, and Northside/Westside Neighborhood Plan. Missoula has a major need for housing and residential areas. Adjacent areas of the Northside (and areas along the railroad tracks) have been developed for residential use in recent years.

Please hear the Northside/Westside residents concerns that the proposed plan's anticipated use is not accurate. Residential housing is a reasonably anticipated use of this site, based on the 4 criteria above. I strongly believe that Burlington Northern should be required to clean it up to **residential standards**.

Thank you for your consideration of my comment.

- Brace Hayden

Concerned Northside Resident
907 Rodgers St
Missoula MT 59802

From: [Allyson Talaska](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula rail yard cleanup
Date: Sunday, April 04, 2021 6:04:02 PM

Hi,

I am writing to make sure the people's voices are heard that the railyard Missoula must be cleaned to residential standards. Make the people who profitted off of polluting the site clean it up to the highest standard. Missoula has a housing crisis and we need that land for residential use. I live just three blocks away and I worry for the safety of our groundwater. Make them clean it up.

https://missoulain.com/news/local/comment-deadline-looms-on-cleanup-of-polluted-42-acre-rail-yard-in-missoula/article_b8c12f93-d26e-5497-91c4-7f8fadb77193.html?utm_campaign=snd-autopilot&utm_medium=social&utm_source=facebook
[\[missoulain.com\]](#)

From: [Kate Supplee](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula Rail Yard
Date: Thursday, April 01, 2021 8:14:38 PM

My comment:

Please, please, clean up this land to Residential, rather than Industrial, Standards.

We have a huge need for housing in Missoula, including affordable housing as well as more moderately priced housing.

This land is so close to downtown and to the University that it makes far more sense to develop it for housing, not industry. Most of our industry is pretty far from the City at this point and I'm not sure what industry would want to be there anyway. Geez, you'd get all kinds of complaints about noise, lights at night, diminishment of nearly neighbors' property values, "pollution," etc. etc. I'm guessing the price for that site would cost-prohibitive anyway for an industry, unless someone's gambling on additional cleanup down the road (when it's even more expensive).

As Missoula's past Open Space program manager (10 years) I can speak to the many benefits of infill development. As a past Realtor (10 years) I understand highest and best use.

Zachary, I hope the State supports site cleanup to Residential Standards. It truly is the highest and best use of that land.

Thank you,

Kate Supplee
Missoula

From: [Renee Valley](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula Railyard Cleanup
Date: Tuesday, April 06, 2021 10:19:05 AM

Hello. I am voicing my opinion regarding the cleanup of the BNSF railyard in Missoula. I think cleanup to industrial standards would be just fine. I think there should not be residences there, tucked in between the railroad and the interstate. I think it is a bad idea. There are other, less toxic, places in Missoula for homes.

My idea would be to clean it up for industry, say, a solar panel industry with green space around, basically a small park. The railroad and city combined to build the rail park by the Southgate Mall, and it is very nice. I can see something like that along with industry but think it unwise to build houses and apartments or any other residences there.

Thank you.

Sincerely,

Renee Valley, Missoula

From: [John Heffernan](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula railyard clean-up
Date: Sunday, March 28, 2021 8:31:56 AM

Our family sincerely hopes that this area will be remediated to the "residential standard". This is our downtown forever and we want to feel good about it. People will be living there.

John and Kathy Heffernan
3851 Duncan Dr, Missoula, Mt 59802
406-544-3946

From: [Barry Dutton](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula Railyard Cleanup
Date: Sunday, April 04, 2021 9:15:01 PM

I am a soil scientist and founder of Land & Water Consulting. I also am former chairman of the Missoula Water Quality Advisory Committee, member of the Tri-state Water Quality Council and long-time advocate of water quality in Montana. My hydrologists at L&W were the first to model the Missoula Aquifer and class it as a sole-source aquifer. I have been involved in local water quality issues for over 4 decades. I also contributed to numerous superfund projects throughout the Clark Fork Drainage.

The Missoula Railyard has long been an issue in local water quality. It sits at the upstream end of the Missoula valley aquifer and affects the entire valley. Groundwater rushes out of Hellgate Canyon and flushes Railyard pollution into the main valley aquifer. This site must be cleaned up to a high standard (residential) to protect Missoulians from future contamination. Missoula plans residential development at this site and its wishes should not be ignored. The railroad continued to contaminate the site with spills and leaks long after the technology was available to prevent it. They must now pay for proper cleanup.

Barry Dutton
Professional Soil Scientist
Land & Water Consulting
2815 Tivoli Way
Missoula, MT 59802

Barry L. Dutton

Professional Soil Scientist
Land & Water Consulting
2815 Tivoli Way
Missoula, MT 59802
406-240-7798

From: [David Lough](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula Superfund site
Date: Sunday, May 02, 2021 9:59:24 AM

Zachary Neudeck, my name is David Lough and I live at 226 N. 1st ST. W. in Missoula, MT. My neighbors and I having a clean environment as per our MT state constitutional right is very important to me. A superfund site within a residential neighborhood is a nightmare for residential health and quality of living.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all. This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development

From: [Willow Wells](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula Superfund
Date: Sunday, May 02, 2021 9:48:22 AM

Zachary Neudeck and the DEQ:

My name is Willow Wells and I live at 226 N. 1st ST. W. in Missoula, MT. My neighbors and I having a clean environment as per our MT state constitutional right is very important to me. An industrial facility within a residential neighborhood is less than ideal for residential health and quality of living.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently

noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Willow Wells

From: [Bailey Z](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula superfund: extend comment period and clean to residential standards
Date: Monday, March 29, 2021 7:42:30 AM

Hello Zach,

My name is Bailey Zook and I live at 521 Defoe St in Missoula's Northside neighborhood, adjacent to the BNSF/MRL railyard. I am requesting that the public comment period be extended 1 month beyond the current April 2nd closing date in order to allow all neighbors the chance to give their public comment and participate in this important process. As a neighbor, I only just learned about this and know that many Northsiders do not know this is happening.

Please extend the public comment period by 1 month beyond the currently planned closing date.

In addition to my request for an extended comment period, **I am also requesting that the site be cleaned up to residential standards.** This land was stolen from Native peoples and one of the smallest kinds of reparations we can advocate for is to honor the land through our treatment of it. The residents of our community should not be left with a problem or a bill to right the wrongs done to this land. I respectfully request that we hold the responsible parties accountable and demand that their Superfund mess be cleaned up to residential standards

Thank you,

Bailey Zook

From: [Robbie Liben](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Missoula's BNSF Superfund Site
Date: Sunday, May 02, 2021 11:10:27 PM

Zachary Neudeck and the DEQ,

I live in the Rattlesnake Valley in Missoula, Montana. I commute past the BNSF superfund site several times per week.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

It is currently zoned to allow mixed residential and commercial use. Given Missoula's housing emergency, we must assume that this land may be used for residential construction in the near future.

Please make sure that it is cleaned to residential standards.

Thank You,
Robbie Liben
1372 Dickinson St.
Missoula, MT 59802

From: [Leon Miller](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] North side DEQ conclusion public comment
Date: Monday, April 26, 2021 5:04:46 PM

My name is Leon Miller and I live at 775 Monroe St, in Missoula, MT. Equitable and Equal housing is scarce and at a premium in Missoula now. Closing down the opportunity for more housing by not enforcing the cleanup of a superfund site is unjust and not right for our community's future.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – our neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Leon Miller

From: [Elise Baker](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] North side housing
Date: Monday, April 26, 2021 12:17:43 AM

Zachary Neudeck and the DEQ:

My name is Elise and I live in Missoula, MT. **As a young adult I care deeply about affordable and readily available housing. I was born and raised in Missoula, and I would very much like to raise my family here. It's just common sense to utilize the land that we have as our community grows.**

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently

noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Sent from my iPhone

From: [Joyce Gibbs](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Northside Missoula Remediation Request
Date: Sunday, May 02, 2021 9:43:29 PM

Hello,

I have lived on the Northside in Missoula for the past 20 years. I own my home, and have seen the many changes that have taken place over the years. I am concerned about the proposal for Burlington Northern/Washington Corp/etc to limit the cleanup of the "east fueling station" at the Missoula Railyard to commercial standards.

In short, as the housing crisis in Missoula looms, I see more and more homes built on the Northside. Three multi-storied residential buildings have been built (in the last 2 years) within 1/4 mile of the proposed clean-up sight.

The reasonable anticipated use is absolutely residential. It should be cleaned up by the BN/WAC to RESIDENTIAL standards.

Please do the job that my tax dollars are paying you to do. Protect future residents from this corporation that has plenty of money to do the right thing. Require that the area be cleaned up to residential standards before being sold.

Thank you for extending the comment timeframe, and listening to we who will be affected.

1.

DEQs findings of "reasonable anticipated use" are NOT ACCEPTABLE.

2.

Based on the 4 criteria for "reasonable anticipated use," housing is a reasonably anticipated use of this area.

3.

So, the DEQ must require that this area be cleaned up to residential standards.

--

Joyce Gibbs
625 N 4th W
Missoula, MT 59802
406-544-3920

From: [L Mac](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Northside Rail Yard Restoration- Missoula
Date: Saturday, April 03, 2021 3:43:58 PM

Of course the Northside Rail Yard should be restored to neighborhood-serviceable condition. It is a perfect area for housing, in a city with a dearth of core land available for the purpose.

All arguments made by city commissioners, re: walkable area, great neighborhood, city's need for more buildable housing lots, etc., are obvious; but what mostly stands out is BNSF's edict to reserve that land for industrial use, which is laughable. One wonders at people who have no vision or creativity. Missoula has grown years past having "industrial" areas planted in the middle of town. That's the reason for designated industrial areas outside of city centers.

Of course, the obvious reason is, they (BNSF) don't want to spend the money. I have little sympathy for multi-billion dollar corporations who use a city for their own gain, but refuse to contribute when asked. It is also past time for our country to stop bowing and scraping to corporations who have done little to mitigate their enormous pollution footprints.

This is a neighborhood. It's time to put valuable land to use for people instead of allowing corporations, who have made billions and billions of dollars, to get away with one more cheapskate cleanup.

Louise McMillin
Missoula

From: [Miranda Hickox](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Northside railroad superfund clean up site
Date: Saturday, April 24, 2021 9:01:05 AM

Zachary Neudeck and the DEQ:

My name is Miranda Hickox and I live in the Northside neighborhood in Missoula, MT. I want this site cleaned up because I'm a northside resident and care about my neighborhood!

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. **Current zoning**

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. **Historical Use**

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. **Current Pattern of Use**

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently

noticeable from the Interstate, comprising dozens of acres of land.

4. **Future Use**

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Miranda

From: [Mark Wayne](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Northside Railyard
Date: Saturday, March 27, 2021 1:17:51 PM

Hello,

Considering the drastic need for affordable housing in Missoula currently, I think it would be a great disservice to our community to not clean the Northside rail yard site up to residential standards.

Mark Wayne
406.830.5584

From: [Pedro Marques](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Northside Resident- BNSF cleanup
Date: Monday, April 26, 2021 2:19:42 PM

Zachary Neudeck and the DEQ:

My name is Pedro Marques and I live at 530 N.3rd St. W. in Missoula, MT. I want to see our neighborhood thrive into the future and be a safe place for my kids. We hate the smell coming from the diesel filling area, look forward to it being moved for our children's sake. For that to happen, the site needs to be cleaned up to residential standards!

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently

noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Pedro Marques

From: [Sam Friedlander](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Northside Superfund Site Development
Date: Sunday, April 25, 2021 1:05:41 AM

Zachary Neudeck and the DEQ:

My name is Mark Friedlander and I live at 521 North Higgins Ave in Missoula, MT. The superfund site literally across the tracks from where I live described below sits unimproved and unused amidst a housing crisis in Missoula. As a resident witnessing unreal rental rates and a growing homeless population as a result, I ask the DEQ exercise its authority in holding BNSF accountable for the cleanup immediately in times of scarce city land that could be utilized for housing.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not

being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Mark

From: [Sarah Raz](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Northside Superfund Site
Date: Monday, April 26, 2021 1:45:04 PM

Zachary Neudeck and the DEQ:

My name is Sarah Raz and I live at 808 Grand Ave in Missoula, MT. This is super close to this site and I'd love to see it get used for more housing.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently

noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Sarah

From: [Sam Hines](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Northside Superfund Site
Date: Monday, March 29, 2021 8:19:17 AM

I strongly encourage you to pursue cleaning the railyard to residential standards. Housing could very reasonably be anticipated in this area. In fact, the Downtown Master Plan already includes this area as a site for future housing. Current zoning already allows for residential use in the area.

Missoula is growing and already has a housing problem. Having this area as a site for housing would make Missoula a better place to live for more people.

A company that has polluted the land should be responsible for its clean up. Please support cleanup to residential standards. Thank you.

Sam

From: [Jerome Walker](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Proposed Clean-up for the Burlington-Northern Missoula facilities
Date: Monday, March 29, 2021 6:47:00 PM

Dear Mr. Neudeck, I'm writing to strongly urge you to require that the above-mentioned property be cleaned up to residential standards, and not to the lower industrial and commercial standards. Since Missoula sits in a valley ringed by mountains, space is at a premium in the city, especially to meet the crying need for more residential or mixed-use development. Residential development adjoins this property to the north, and given the need for dense housing located close to the heart of the city and accessible by foot or bike, it's clear that would be the highest and best use for this property. It follows, then, as city planners are advocating, that proper clean-up to make it safe for families and children should be the goal for the DEQ. If a delay is needed to get more citizen input and to do this right the first time, then so be it.

Respectfully,

Jerome Walker, M.D.
222A Inez St.
Missoula, MT, 59801
(406) 210-4374

From: [Courtney Murphy](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Proposed plan for Burlington North Facility
Date: Friday, March 26, 2021 8:34:30 PM

As a resident of the northside of Missoula, I am asking that the period for public comment be extended. The City's Master Plan includes, specifically, residential and mixed-use on this site. Because the future of this superfund site is slated to be residential, it should be cleaned to residential standards. The company responsible for the pollution should pay for the clean up, rather than passing that cost further down the line.

Courtney Murphy

--

www.courtneymurphy.net [courtneymurphy.net]

From: [Tessie A Weekley](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Public Comment - Rail Yard
Date: Sunday, April 04, 2021 9:21:55 AM

Hi we lived at 1402 Sherwood (Burton & Sherwood) for a year but we had to move due to the constantly running locomotives (especially in the winter) pumping acrid diesel fumes all throughout the neighborhood - especially during inversions.

The fumes get trapped and it burns the eyes and nose and lungs. There is no escaping it.

I fully understand how locomotives work, and diesel engines in general. I am a former locomotive maintenance technician and former long-haul truck driver.

The fumes are horrible and all the areas along the tracks from Orange Street to Burton are absolutely terrible to have to breath in; especially at the elementary school there on Sherwood by the Westside park.

We moved away to S 5TH ST W and Ivy Streets as soon as our lease expired, and it's better over here, but occasionally the fumes make it clear across the river and we can smell it all the way over here.

The loud noises of them crashing together the cars as they assemble the trains is tolerable. The acrid air is not.

It's like the elephant in the room that nobody's mentioning.

A series of air quality tests need to be done. Especially during the winter and during our fabulous inversions that we get here.

Thank you for your time and consideration.

Sincerely,

Tessie A. Weekley & David Reed

From: [Daniel Carlino](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Public Comment - Superfund Site in Missoula
Date: Friday, April 30, 2021 10:24:56 AM

We can not allow this Superfund site to continue—our citizens deserve better than a cesspool of industrial waste right in the heart of Missoula.

Further, the open land along this railway is also going to waste. If properly cleaned, much of this Superfund site could be used for housing developments that Missoulians can afford. Amidst our housing crisis, we must create more options for affordable housing. Currently, The Montana Department of Environmental Quality (DEQ) has only recommended an industrial-level cleanup: a limited solution that precludes any future residential developments in this area.

Our city deserves better. The DEQ must hold Burlington Northern Santa Fe fully responsible to clean up this Superfund site to a residential standard—ensuring a safer, healthier future for this Missoula neighborhood, along with more options for our city to grow.

From: [Britt Arnesen](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Public comment on BNSF contamination in downtown Missoula
Date: Friday, March 26, 2021 5:40:11 PM

I just received word of this and tried to read through the plan but it will take some time. Can you please extend the comment deadline so people living near this have time to adequately respond? In the absence of an extension, I would offer these comments now.

This area is part of the heart of Missoula's Downtown. It should be cleaned up to the highest residential standard. I routinely bike this area with my child and it is scary how much contamination was found there. It must be cleaned up to a standard that would make it safe for us to walk and bike our pets and children along this road, as Missoulians routinely do. Also, this area is imagined to be mixed use or residential in future Missoula planning documents. It must be cleaned up to allow this. An industrial wasteland has no place in a thriving downtown/county seat. Please require BNSF to treat the site such that they are no longer contaminating groundwater in our downtown. Is the public currently at risk to dust and aerosols blowing off this site into adjacent neighborhoods? An industrial cleanup standard is not good enough. We need a residential-level safety in our downtown.

Thank you
Britt Arnesen
Missoula resident

From: [Maggie Gammons](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Public comment on Missoula's Northside Superfund site
Date: Monday, April 26, 2021 6:23:43 PM

Zachary Neudeck and the DEQ:

My name is Maggie Gammons and I am a student living in Missoula, MT. For years I lived on the northside, just a few blocks from the BNSF Railyard superfund site.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Maggie Gammons

From: [troy payton](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Public comment on the Proposed Plan for the Burlington Northern (BN) Missoula Facility
Date: Wednesday, March 31, 2021 9:23:11 AM

Good Morning,

I am a property owner near the super fund site at the Burlington Railroad site in Missoula, located at 317 & 319 North 2nd Street West. I support the total clean up and removal of ALL chemicals (PAHs) (VOCs), etc. to **residential** standards.

People live here, kids walk the streets. Please do the right thing and clean up the toxic mess of over 100 years.

Thank you,
Troy Payton
370-9710

From: [Chelsea Cough](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Public Comment
Date: Monday, April 26, 2021 1:34:58 PM

Zachary Neudeck and the DEQ:

My name is Chelsea Cough and I live at 911 Sherwood St. in Missoula, MT. The proposed site is close to my neighborhood and as more housing is being built around Missoula, it is important that there are no environmental issues below ground that could harm future residents. BNSF pays little taxes and pollutes our neighborhood with noise as well as ground pollution.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Chelsea Cough

From: [Kaitlin McCafferty](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Public Comment: Burlington Northern Missoula Facility
Date: Friday, April 30, 2021 1:49:35 PM
Attachments: [image001.jpg](#)

Zachary Neudeck and the DEQ:

My name is Kaitlin McCafferty and I live at 515 N Adams in Missoula, MT. Walking distance from the Burlington Northern Missoula Facility superfund site.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula and my neighborhood is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

I urge you to use the precedent of the [White Pine Sash/ Scott Street case \(linked\)](#) as an example of a site that was originally proposed to be cleaned to commercial standards, and later recognized residential standards were most appropriate to require.

Further, please consider the below analysis of the criteria:

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Kaitlin McCafferty | She/Her/Hers | Associate Planner
Community Planning, Development & Innovation
O: 406.552.6085 C: 406.552.5631 | McCaffertyK@ci.missoula.mt.us



Promoting equitable growth and a resilient, sustainable community.

Messages and attachments sent to or from this e-mail account pertaining to City business may be considered public or private records depending on the message content. The City is often required by law to provide public records to individuals requesting them. The City is also required by law to protect private, confidential information. This message is intended for the use of the individual or entity named above. If you are not the intended recipient of this transmission, please notify the sender immediately, do not forward the message to anyone, and delete all copies. Thank you

From: [Kayje Booker](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Public Comment: Burlington Northern Northside Missoula
Date: Friday, April 02, 2021 4:48:00 PM

To Whom it May Concern:

I am a resident of the Northside neighborhood of Missoula and am writing to request that DEQ requires Burlington Northern to clean up the rail yard to residential standards.

It is highly likely that the rail yard will be needed and used for housing in the near future and should be cleaned to the standards needed for that to happen. DEQ's findings regarding "reasonable anticipated use" are incorrect and unacceptable based on DEQ's own criteria:

- Current zoning for the area already allows mixed commercial *and residential* use.
- Current pattern of use indicates that the area is no longer being used as a railyard and instead that the entire area, including properties immediately adjacent to the railyard, are being developed for housing.
- Future use is clearly residential as the site is slated for residential housing development in the Missoula Downtown Master Plan, the Missoula Growth Policy, and the Northside/Westside Neighborhood Plan.

Therefore it is clear that by the DEQ's own criteria, reasonable anticipated use of this site is residential housing, and Burlington Northern should be required to clean the site to residential standards.

Thank you for your time and consideration.

Sincerely,
Kayje Booker

From: [Margaret DeBona](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Public comment-bnsf superfund missoula
Date: Saturday, May 01, 2021 7:06:16 AM

To whom it may concern,
As a resident of the northside neighborhood I urge DEQ to change its conclusion that the BNSF rail yard super fund in Missoula only be cleaned up to commercial standards. We need a residential standard of cleanup to be paid for by the original polluter, BNSF. We need space for housing in Missoula and a safe environment for that housing. Cleaning up to only a commercial standard does not address the needs of the community.
Thank you,
Margaret DeBona
Missoula, MT 59802

Sent from my iPhone

On Mar 26, 2021, at 10:39 AM, Neudeck, Zachary <Zachary.Neudeck@mt.gov> wrote:

Hello Margaret,

Thank you for your interest and input for the Burlington Northern Facility. We are currently having internal discussions on extending the public comment period and will provide notification of the decision in the near future.

Thank you,
Zac

Zachary Neudeck
Environmental Project Officer
Montana DEQ | Remediation Division
1225 Cedar Street
Helena, MT 59601
(406) 444-6773

From: Margaret De Bona <mdebona@gmail.com>
Sent: Friday, March 26, 2021 9:45 AM
To: Neudeck, Zachary <Zachary.Neudeck@mt.gov>
Subject: [EXTERNAL] missoula superfund site - extend public comment period

Hello, Zach.

My name is Margaret DeBona and I live at 1400 Burns St on the Westside of Missoula, adjacent to the BNSF/MRL railyard. I am requesting that the public comment period be extended 1 month beyond the current April 2nd closing date in order to allow all neighbors the chance to give their public comment and participate in this important process. As a neighbor, I only just learned about this and know that many Northsiders do not know this is happening.

Please extend the public comment period by 1 month beyond the currently planned closing date.

Thank you,

Margaret DeBona



Sender notified by
[\[mailtrack.io\]](#) [Mailtrack \[mailtrack.io\]](#)

--

Margaret DeBona

[they/them/theirs](#)

[Small Time Shirt \[etsy.com\]](#)

828-215-0748

From: [Montana Forcier](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Rail Yard Clean Up!!
Date: Saturday, April 03, 2021 9:14:23 AM

Good morning!!! I just wanted to briefly say that I believe the rail yard SHOULD be brought up to RESIDENTIAL standards, and be used for HOUSING!!!! At this point in my life, I have the good fortune to have family who is able to house me, my husband and our FIVE kids out in Florence. Our plan 2 years ago when we moved in was to get a home in Missoula, even a large apartment, and we have struggled for 2 years living with family because there is NOT enough housing in Missoula for the amount of people our infrastructure begs it can accommodate....

Many friends are in the same boat, but most of them are not lucky enough to have family.

Please please PLEASE create that space, this rail yard, not into MORE industrial options. Missoula has too much pollution as it is, and the landscape is being ruined by money making industrial baggage and FAMILIES NOT BEING ABLE TO FIND A HOME!!!

Thank you!!!! Hope you have a great weekend and a wonderful project, thank you for listening!!!

Montana Forcier

From: [Dave Lunn](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Rail yard cleanup
Date: Monday, April 05, 2021 1:08:39 PM

The following comment from BNSF public affairs is disgusting:

"In the unlikely event that the use of the property/zoning were to change in the future, the developer of the property would be required to ensure it met applicable standards for such an intended use as part of a zoning change."

This is an attempt to skirt their responsibility to clean their own mess. It conveniently ignores the fact that the only reason the site needs to be cleaned is because of BNSF's own use of the area for so long.

The site should be cleaned to residential standards and that cleaning should be BNSF's responsibility. We desperately need additional housing in Missoula and will continue to need it for years to come.

From: [Kim Birck](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Rail yard cleanup
Date: Saturday, April 03, 2021 7:21:42 AM

Hello decision-makers,

I'll make this brief. It is a no-brainer to clean this site up to allow for future housing.

Housing needs to be near services, and the rail yard location would allow people to live and prosper without requiring they own a vehicle.

Allowing a lesser standard of cleanup is a waste of time and money, and would set back rather than advance Missoula's goals for housing.

Please require the cleanup be done to residential not industrial standards. Future Missoulians will thank you.

Sincerely,
Kim Birck
9280 Keegan Trail
Missoula 59808

Sent from my iPhone

Sent from my iPhone

From: [Michael Dean](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Railroad Roundhouse Site Cleanup
Date: Sunday, May 02, 2021 7:29:55 PM

Zachary Neudeck and the DEQ:

My name is Michael Dean and I live at 626 S 3rd St W in Missoula, MT. I care greatly that this long polluted site be cleaned up to residential land use standards and be made available for housing in the future!]

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

In conclusion, based on the 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Michael Dean

From: [Ric Mcleod](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Railroad yard clean up
Date: Monday, March 29, 2021 10:02:14 AM

Hello Zach,

I don't know if you are familiar with this area as far as the In fill building going on in Missoula. Several residential buildings were recently built in this area because of the land affordability. Missoula desperately needs areas for low income development within the city limits. The current plan will keep this land out of reach for any developer who would have to do the clean up. Please look at the Missoula city Growth plans and the real time developments happening in the housing market. People cannot afford homes. We need to have lower cost areas for people now. Thanks for your Time

Ric Mcleod

From: [Joseph Morman](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Railyard District Must be Cleaned for Residential Use
Date: Monday, April 05, 2021 4:30:42 PM

Montana DEQ must require BNSF to pay for cleanup of the Railyard District to residential use standards. BNSF's argument that the area has historically been used for industrial activities is irrelevant as things change and the city needs more residential areas especially in the Railyard District. Missoula residents don't need industrial areas in the middle of town regardless of the history of the area. Hold BNSF responsible for all cleanup costs associated with the area. Put people over profits and put industrial development in its proper place: NOT in the middle of our city!

Joe Morman

Sent from my iPhone

From: [KD Dickinson](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Re: Burlington Northern Missoula Public Comment
Date: Monday, April 05, 2021 1:57:30 PM

Thank you Zac, for any influence you had in extending the public comment period for this proposed plan regarding the BN Missoula Facility.

I am a real estate agent in Missoula (Portico Real Estate) and have been an advocate for affordable housing for the length of my career, which began in 1994. We have always had a need for more Work Force and Affordable housing in our town and seems like that need is more critical now than ever. Our inventory is at all time lows and the prices are at all time highs and more and more Missoulians are struggling to obtain safe housing both in the rental and sales markets.

I know Missoula's downtown master plan included language about the Railyard District being a Key Opportunity for housing. Some of the language in that plan: "The following visualizations illustrate the conversion of the rail switching yard into new vibrant, walkable, mixed use neighborhood fabric. The concept of a new development supplementing the existing neighborhood north of the railroad tracks..." (pg. 60-61 in the master plan).

IF BN does not clean the site up fully now, to residential standards, then the City or developer would have to foot the bill, making it incredibly difficult to develop housing here. Especially anything nearly affordable for the average Missoulian. And it would prevent the area from being a mixed use, walkable Much needed part of our City.

The reasons BN seem to have come up with for why they would just clean the area up to Commercial Standards are all false, and really not acceptable.

Thanks for your time and again, for extending the comment period.

KD Dickinson
Broker/Owner
Portico Real Estate
Missoula, Mt. 59801

On Mon, Mar 29, 2021 at 5:07 PM Neudeck, Zachary <Zachary.Neudeck@mt.gov> wrote:
Hello,

The Montana Department of Environmental Quality (DEQ) has extended the public comment period on the Proposed Plan for the Burlington Northern Missoula State Superfund Facility by 30 days. The public comment period began on February 26, 2021 and has been extended to May 2, 2021, at 11:59 p.m. MST. DEQ will publish notice of the extension in the Thursday, April 1, 2021 version of the *Missoulian*, but is also providing this information to those who emailed to request an extension to assist with spreading the word about the extended comment period. The Proposed Plan and other information regarding the BN Missoula Facility is available online at DEQ's website (<http://deq.mt.gov/public/publiccomment>), at the DEQ Cedar Building (1225 Cedar

St. in Helena), and the Mansfield Library (32 Campus Dr., Missoula, MT). Written comments may be submitted to Zachary Neudeck, Project Officer, at DEQ Waste Management and Remediation Division, P.O. Box 200901, Helena, MT 59620 or via email at zachary.neudeck@mt.gov. Comments received through the postal service must be postmarked no later than May 2, 2021, and comments submitted electronically must be received no later than 11:59 pm MST on May 2, 2021.

Thank you for your interest in the BN Missoula Facility.

Zac

Zachary Neudeck
Environmental Project Officer
Montana DEQ | Remediation Division
1225 Cedar Street
Helena, MT 59601
(406) 444-6773

From: [Mirtha Becerra](#)
To: maechling@bigsky.net
Cc: [Neudeck, Zachary](#); [Mirtha Becerra](#); [David Strohmaier](#)
Subject: [EXTERNAL] Re: Missoula BN Railyard cleanup
Date: Thursday, April 22, 2021 12:21:52 PM

Philip,
Thank you for your thoughtful comments. I agree. I'll share with City Council as well.
Take care,
Mirtha

Sent from my iPhone

On Apr 22, 2021, at 10:41 AM, maechling [bigsky.net](mailto:maechling@bigsky.net) [[bigsky.net](mailto:maechling@bigsky.net)]
<maechling@bigsky.net> wrote:

This is a comment on the Proposed Plan for the Burlington Northern (BN) Missoula Facility. The Proposed Plan identifies the preferred remedy for completing cleanup activities at the BN Missoula Comprehensive Environmental Cleanup and Responsibility Act (CECRA – State Superfund) Facility in the City of Missoula, Missoula County, Montana.

I spent more than 20 years in Missoula's city and county planning office as planning manager and historic preservation officer. I can remember over the last 20 years commenting more than once that the rail yard cleanup needed to be at residential standards. Among other reasons, aquifer protection and public safety are critical to downtown mixed use development -- which means commercial and residential development of the historic buildings on either side of the railyard. I created the Downtown Missoula (National) Historic District in part to enable historic tax credits as incentives for downtown revitalization. This and other credits, are real money incentives that make development happen, which creates jobs and spin-off businesses.

And it enables Missoula to save historic buildings for adaptive reuse and sustainable conservation of resources and heritage. Please consider these concepts in your cleanup plan to residential standards.

Thank you,
Philip

Philip Maechling
579 West County Line
Florence, Montana 59833
406 273 0560 mobile 406 529 4873

Messages and attachments sent to or from this e-mail account pertaining to City business may be considered public or private records depending on the message content. The City is often required by law to provide public records to individuals requesting them. The City is also required

by law to protect private, confidential information. This message is intended for the use of the individual or entity named above. If you are not the intended recipient of this transmission, please notify the sender immediately, do not forward the message to anyone, and delete all copies.

Thank you ☐☐

From: [Marcia Williams](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Re: Proposed Plan for the Burlington Northern Missoula Facility
Date: Monday, March 29, 2021 4:37:08 PM

Dear Mr. Neudeck:

I am writing to implore the DEQ to require remediation of the Burlington Northern Missoula Facility to **residential standards**, not to the lower industrial and commercial standards. That location is surrounded by residential plats and is immediately adjacent to downtown. Dense housing close to the business center--such as this is--provides the greatest environmental benefits: ease of alternative forms of transportation such as walking, bicycling, or public transit; shorter commutes; concentration of residents near services.

To remediate to the lesser standards is like painting over rotten wood, only a partial fix at a time when it would be most cost-effective to remediate all the way to residential standards, the equivalent of replacing the rotten wood before painting over it.

Thank you for this opportunity to make comments.

Sincerely yours,

Marcia E. Williams

PO Box 8268

Missoula, MT 59807-8268

406.210.5376

marcia.e.williams@protonmail.com

From: [Abby Huseth](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Require BNSF to clean up Northside facility to residential standards
Date: Wednesday, April 28, 2021 12:00:31 PM

Zachary Neudeck and the DEQ:

My name is Abby Huseth and my family and I live at 1726 Sherwood St. in Missoula, MT. When my husband and I moved to Missoula 7 years ago, housing was readily available and relatively affordable, and we were able to find first a rented apartment then a house of our own in a location convenient to our school and work. In just a few short years, however, the housing landscape in Missoula has changed drastically, and if one of us lost our job and we had to move, it's no exaggeration to say we would be completely priced out of Missoula. When hundreds of regular Missoulians like me came together to help develop our community's growth policy and housing plans, we recognized the urgent need for infill housing development that can help ease the housing crunch and take advantage of access to existing urban amenities. It's equitable, and it just makes sense!

That's why the Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is **NOT acceptable**. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and along with my neighbors, I am asking the DEQ to (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of

years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled “East fueling station” is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ’s 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

Thank you for your attention to this important matter.

Abigail Huseth

From: [Ric Mcleod](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] RR Yard Cleanup
Date: Thursday, April 01, 2021 11:25:50 AM

Thank you for extending the feedback timeline for this proposal. The property under consideration is prime for low income housing Its situation is very close to downtown and the area is already experiencing residential development on both the north side and southside of the property The properties location with a railroad crossing and cross traffic make it an unlikely choice for industrial developments Please reconsider the decision to clean up the site for industrial use and require a cleanup with residential developement in mind
Thanks Ric mcleod

From: [Dirik Dubay](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Site proposal
Date: Friday, April 02, 2021 11:26:53 AM

I disagree with the attempt to clean this site up to residential standards. I agree we need more affordable housing. I have lived on A Street for a time. It is directly adjacent to the proposed property. The proposed property being located so closely to the rail yard would make a bad area for residential housing for that reason. It's loud, dusty, and the traffic is terrible from there. It would be better served as a industrial area.

Thank you.
Dirik Dubay
Missoula resident

Sent from my iPhone

From: [Miranda Hickox](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Superfund Rail Yard Cleanup
Date: Wednesday, March 31, 2021 9:44:01 AM

Hello Zachary,

I'm a missoula citizen and it is critical that the site be cleaned up to residential standards. Cleaning the site to industrial levels will not be sufficient and does not fit with Missoula's downtown master plan.

Thanks,
Miranda

From: yellowleaves59@outlook.com
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Superfund site in Northside neighborhood Missoula, MT
Date: Sunday, May 02, 2021 4:23:27 PM

Zachary Neudeck and the DEQ:

*My name is **Mariah gray** and I live at **565 Burton St. #101** in **Missoula, MT**. **[This is why I care about this site being cleaned up and available for housing in the future!]***

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable - and necessary - municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area *has not been used as a railyard for at least 50 years and is not in use at all*. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled "East fueling station" is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to - and need to - develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

In conclusion, based on the 4 criteria, we have every reason to believe that housing is

a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,
Mariah

From: [Kelsey Johnson](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Superfund site in the Northside
Date: Monday, April 26, 2021 7:53:45 AM

Zachary Neudeck and the DEQ:

My name is Kelsey and I live in Missoula, MT. This is why I care about this site being cleaned up and available for housing in the future.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood!

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled “East fueling station” is currently not being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you,

Kelsey Johnson

From: [Bailey Z](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Support for Burlington Northern Facility Residential Level Cleanup
Date: Sunday, March 28, 2021 7:24:33 PM

Hi,

I am writing to voice my support for residential level cleanup of the Burlington Northern Facility State Superfund Site. As a Northside resident in Missoula that lives within one mile of the superfund site, I strongly request that the site be cleaned up by the responsible parties in accordance with residential guidelines. Missoula is currently experiencing more demand for housing that it has available and we will eventually find that we need this site for residential properties. Missoula residents should not be made to pay for this bill. This site should never have been treated so poorly by Burlington Northern and should be treated with respect and cleaned to residential standards. If you wouldn't eat vegetables grown on the land, it's simply not clean.

Thank you for hearing my concerns,
Bailey Zook
Defoe Street, Missoula

From: [Evan Cazavilan](#)
To: [Neudeck, Zachary](#)
Subject: [EXTERNAL] Time to clean up the party
Date: Saturday, April 24, 2021 9:54:10 PM

Zachary Neudeck and the DEQ:

My name is **Evan Cazavilan** and I live at **1125 Van Buren street** in Missoula, MT. I am writing this letter to you to ensure the clean up effort of the BNSF/ montana rail fuel station meets residential standards for soil contamination.

As we all know land use in Missoula has become a hot commodity, it is critical land within the city limits is used as efficiently as possible to maximize usefulness to the community.

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is not acceptable. Housing is a reasonable anticipated use of this site, as indicated within the 4 criteria below, and this neighborhood asks that the DEQ (1) change their conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Housing is a reasonable – and necessary – municipally-anticipated use of now vacant, abandoned, and blighted portions of the BNSF Railyard in my neighborhood.

1. Current zoning

Current zoning (MR1-2) already allows mixed residential and commercial use.

2. Historical Use

While the site has historically been used as a railyard and fueling station, a large portion of the area has not been used as a railyard for at least 50 years and is not in use at all. In addition, prior to being a railyard, this land was home to Indigenous people for thousands of years; these historical, non-industrial uses should also receive consideration when assessing historical use.

3. Current Pattern of Use

The current pattern of use is trending toward the overall area being used less as a railyard over time. Specifically, the area labelled “East fueling station” is currently not

being used at all.

This is the largest and most visibly blighted area of downtown Missoula, prominently noticeable from the Interstate, comprising dozens of acres of land.

4. Future Use

The site in question is indicated for residential development and use in many City documents, including the Downtown Master Plan, the Missoula City Growth Policy, and the Northside/Westside Neighborhood Plan.

We are in a housing crisis and the Northside has seen dramatic residential development adjacent to that site in the past several years. The City of Missoula and the Northside/Westside community intend to – and need to – develop housing on this site in order to accommodate our growing community and slow the unprecedented rate of neighbor displacement caused by our current housing crisis.

Based on the DEQ's 4 criteria, we have every reason to believe that housing is a reasonably anticipated and highly desirable use of this site and the responsible party should be required to clean it up to residential standards.

—

The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood – my neighborhood – is NOT acceptable. Housing is a reasonable anticipated use of this site, so it is the DEQ's **responsibility** to (1) change its conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Thank you for your time,

Evan Cazavilan



Missoula City-County Health Department

WATER QUALITY DISTRICT

301 West Alder Street | Missoula MT 59802-4123
www.missoulacounty.us/HealthDept

Phone | 406.258.4890

Fax | 406.258.4781

April 6, 2021

Zachary Neudeck
Montana DEQ
Waste Management and Remediation Division
P.O. Box 200901
Helena, MT 59620-0901

Re: Proposed Plan for Burlington Northern Missoula CECRA Facility

Dear Zachary,

The Missoula Valley Water Quality District (District) appreciates the opportunity to comment on the above plans.

We are in support the selected remedial alternatives of continuing and expanding bioventing, natural source zone depletion (NSZD), and monitored natural attenuation (MNA) as described in section 8.1 Alternatives Evaluation. However, we recommend a targeted clean-up of select areas of onsite soils to meet residential standards, a review of offsite results, and efforts to accelerate the remediation of groundwater contamination.

Onsite soil clean-up

Although the Facility is currently an operating railyard, it is likely that at least some portions of the property will not continue to operate in this capacity in the foreseeable future. The site is located in mixed-use urban area and given Missoula's anticipated growth and limited room to expand within the valley, increased residential and mixed-used development is anticipated. As acknowledged in section 6.1 Reasonably Anticipated Future Uses, the Missoula Greater Downtown Master Plan (DTMP) the community envisions mixed-use residential in the future on this site. Also, the Joint Northside/Westside Neighborhood Plan (2000) recommends redevelopment of the Facility east of the turntable, for potential uses that include housing, recreation, and commercial uses. There are areas of the BN property adjacent to residential neighborhoods (areas north and east of turntable) that are not actively being used. These sections of the railyard are seen as "opportunity zones" in the DTMP and future residential development of these portions of the Facility cannot be ruled out.

As the railyard has transitioned away from maintenance at the site and altered it's fueling and waste systems, a pattern of divesting of infrastructure and use of the east end of the property has occurred. For example, the 19-stall roundhouse, garage, shop buildings, and material storage area was demolished in 1983. By 1998 the underground oil-water separator, UST, and grit chamber were removed. Aerial photos of the site from 1955 compared to present day illustrates these changes, making the now empty section of the site the most likely location for re-development.



1955 aerial photo. Note buildings and roundhouse.



2021 aerial photo. Divesting in area has occurred.

In the Baseline Risk Assessment, contaminants in onsite surface soils were screened against residential screening levels and found to exceed direct-contact screening levels. BN evaluated onsite surface soil considering the residential screening levels at DEQ's request, however values were not carried forward for COC, hazard, or SSCL analysis. The area with the highest concentrations of both PAHs and lead in surface soil is the former roundhouse area, an area with little or no infrastructure. Fig. 20 in the Proposed Plan depicts soil exceedance of residential PAHs and metals throughout the site and estimates a cost in the excess of 15 million dollars to remove contaminated soils.

Due to the likelihood for residential development of the areas around and east of the former roundhouse area, a desire to reduce long-term public health risks, and the need to prevent taxpayers from bearing the burden of future soil excavations, the WQD urges that DEQ:

- Establish a "zone of high-development potential" that incorporates community and property owner feedback on areas most likely to be developed for future residential use (example image below).
- Use current soil concentrations of COPCs to identify residential COCs and perform a hazard analysis to future residents in this zone
- Establish residential SSCLs for COCs in these target areas.
- Amend the Proposed Plan to include options for targeted soil removal. This alternative would be much less expensive than the total removal/paving alternatives that are currently evaluated, especially if contaminated soils were disposed of locally.



Suggested “zone of high-development potential”

In a scenario absent of onsite soil removal, we are concerned about lead migration offsite. In 2017 screening levels for lead based on a 5ug/dL blood lead endpoint lowered the residential screening level for lead from 400mg/kg to 156 mg/kg. The overall onsite exposure point concentration of 230 mg/kg is below the commercial screening of 696 mg/kg, but not residential screening levels. Leaving these soils in place does not address the possibility of the Facility being a source for the offsite lead levels via windblown dust. There is one sample in the old roundhouse area, across the street from most of the offsite exceedances, at 1160 mg/kg. This risk is further justification for soil removal from areas adjacent and downwind of residential areas.

Offsite soil clean-up

In 2016, DEQ reviewed and provided comment on BN’s initial draft of the FS and determined additional residential soil sampling was required based on the results of the 2015 sampling efforts. This sampling was completed in October and December of 2016 and BN submitted a sampling data report. Then in 2017 the EPA updated the toxicity data for benzo(a)pyrene which changed the PAH site-specific clean-up (SSCL) level from 0.23 mg/kg to 1.7 mg/kg. This change reduced the risk of the offsite residential levels to below the threshold for clean-up. Our concern is that given the previous SSCL of 0.23 mg/kg for cPAHs, a more extensive offsite soil clean-up was presumed. Therefore, the soil sampling design and density conducted offsite in 2016 was likely not designed to identify hot-spots. Therefore, concluding that no offsite remediation is warranted since composite sample values for PAHs in offsite surface soil do not exceed the new SSCL of 1.7 mg/kg, may be inaccurate. Discrete sample concentrations of 2.83 and 2.05 mg/kg exist in the front yard of 210 N. 2nd E. – well above the SSCL. These values are two to three orders of magnitude above background values. Also, we could not find updated PAH soil values for offsite locations 837 A St, 825 A St, 102 and 108 N 2nd St E, and no other discrete soil sample results were provided in the FS (only composite averages). Similarly, discrete samples for soil lead from 210 N.

2nd E. and 837 A St. appeared to exceed residential screening levels (156 mg/kg), with concentrations of 671 and 407 mg/kg, respectively.

The WQD requests that all offsite soil sampling data be reviewed to ensure discrete samples or identification of hotspots were not missed. Also, because surface soil samples from 837 A St., 245 E Alder, and 229 E Alder all exceeded SSLs in 1993 but were not sampled in 2015 due to a denial of access by homeowners, we request that these sites are sampled if possible. We believe that these discrete results represent an unacceptable risk to residents, and that excavation and backfill is warranted for the portions of properties with levels exceeding the SSCL. This could be accomplished at relatively low cost.

Short-term mitigation of groundwater

Interim action as well as natural attenuation have reduced the extent of LNAPL plumes over time at the Facility, but more than three decades after identifying this contamination, there are still source areas and exceedances of standards. Plumes of measurable LNAPL and EPH exceeding RBSLs, along with arsenic at levels that exceed MCLs, exist in both the perched and regional aquifers both on and off the BN property. We are concerned about the exclusive long-term (22-30 yrs) nature of the proposed remedies and of the three, only bioventing provides for active biodegradation over existing natural processes. One requirement of the selected cleanup option is to meet seven specific criteria, including short-term effectiveness and the practical use of treatment technologies.

While bioventing and natural attenuation has contributed to reduction of hydrocarbons in groundwater over time, the process is slow, particularly under anaerobic conditions, and it should be augmented by in-situ treatment of groundwater over the short-term. Some combination of bioremediation-enhancing technologies should be employed where effective based on pilot studies, to be employed using existing wells prior to implementation of bioventing network coming online. This could include AS/SVE and/or injection of oxidizing or nutrient enriching compounds to accelerate degradation. This could significantly reduce the time-frame required to achieve groundwater remediation goals. We support more robust short-term solutions, especially in areas where existing monitoring wells show the highest levels of LNAPL and where risks from leaching to groundwater from the deep subsurface/smear zone exist.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Todd Seib', with a stylized flourish at the end.

Todd Seib, PhD
Water Quality Specialist
Missoula Valley Water Quality District



OFFICE OF THE MAYOR

435 RYMAN MISSOULA, MONTANA 59802-4297 (406) 552-6001

April 27, 2021

Zachary Neudeck, Environmental Project Officer
Montana Department of Environmental Quality Remediation Division
P.O. Box 200901
Helena, MT 59620-0901

Dear Mr. Neudeck:

I write today to respond on behalf of the City of Missoula to your letter of February 24, 2021, and the Proposed Plan for the Burlington Northern (BN) Missoula State Superfund Facility. I have reviewed comments prepared by the Missoula City-County Health Department Water Quality District, and I endorse and incorporate that agency's comments here by reference.

In the balance of this letter I will address DEQ's Proposed Plan relative to reasonably anticipated future uses and surface soil cleanup levels on the site. The City believes that for substantial portions of the onsite facility that residential use is a reasonably anticipated future use. Accordingly, the City believes the Proposed Plan is not protective of likely future uses. The City and this community find DEQ's Proposed Plan to approve surface soil that exceeds residential screening levels for contaminants of concern unacceptable.

Context: The Need for Homes that Missoulians Can Afford

As I wrote in 2019, today in Missoula too many of our friends and neighbors don't have homes. Period. And for many more, the place they call home costs so much that they're less than a paycheck away from losing that home. And for even more of us, the idea of owning a home, still a key component of the American dream, is simply unachievable.

Illustrating this issue, a 2018 study found that more than four in ten Missoula households are cost-burdened by housing, meaning they pay more than 30% of their income for shelter.¹ Further, more than half of Missoula renters are cost-burdened. More recent data tell the same story. A report from the Missoula Organization of Realtors in late 2020 found that the median sale price for single-family housing is now just under \$338,000, beyond the reach of most Missoulians.² The multifamily housing vacancy rate is hovering around 1%, making rentals a lessor's market.³

Missoula has invested a lot of time, community energy and capital to confront this challenge. In 2019, we adopted a housing policy, A Place to Call Home, that mapped out efforts to increase the rate of development of market-rate housing while simultaneously devoting more resources to helping the most disadvantaged Missoulians afford homes. We are working hard to implement the changes that will yield greater long-term affordability. A big part of that effort is simply increasing supply – making it possible for the market to respond to the clear demand for more

¹ Making Missoula Home, 4.

² <https://missoulacurrent.com/business/2020/09/lack-of-housing-missoula/>. See also: <https://www.ci.missoula.mt.us/DocumentCenter/View/55040/Area-Median-Income>.

³ <https://missoulacurrent.com/business/2021/03/multi-family-housing/>

housing in Missoula. For reasons outlined below, Missoula seeks to focus that growth in the City's core, and the geography of our valley makes that challenging. The City's core is hard up against protected public lands, and those unbreachable boundaries drive up the price of land. Removing acres of land from the possibility of residential redevelopment increases scarcity, drives up land prices and therefore contributes to rising home prices.

The Need for Residential Development Downtown and the Master Plan

The need for more housing in Missoula is acute; the need to locate much of that housing in the City's existing core is equally acute, for three critical reasons.

First, the vitality of Downtown Missoula depends on residents. Too many downtowns in this country become ghost towns in the evening. To keep Missoula thriving, Downtown needs to thrive. To keep Downtown thriving, we need people as well as businesses.

Second, the cost and cost-revenue balance of providing public services increases more than linearly the farther development is located from the City's core. The alternative to residential redevelopment of underused parcels in the City's core is greenfield development that requires substantial new investments in road construction, road maintenance, water and sewer, public safety and other public services. It is not fiscally wise or sustainable for the City to grow out when it can increase use of those same public services within our existing footprint.

Finally, increasing residential opportunities in the City's core yields a host of ancillary benefits, such as reduced vehicle miles traveled (VMT) with VMT's implications for climate change and air quality in Missoula's compromised airshed.

For all these reasons, it is worth reiterating what Chief Administrative Officer Dale Bickell advised DEQ in 2020:

The most recent and relevant local planning effort to focus on the BN Missoula Facility is the Missoula Downtown Master Plan (2019). The Downtown Master Plan was the result of a public-private collaboration that included extensive public input through public meetings, workshops, surveys and other means. On November 4, 2019, Missoula's City Council adopted the Downtown Master Plan as an amendment to the Our Missoula: City Growth Policy 2035.

The current Downtown Master Plan follows its predecessor (Missoula Downtown Master Plan 2009) in identifying a) the need for more housing downtown, and b) the BN Missoula Facility as an excellent potential location for such housing. On pages 2.44 and 2.45, the Downtown Master Plan envisions potential redevelopment of the BN Facility. On page 7.5, the Downtown Master Plan commits the City to pursue redevelopment of the railyard "into a walkable neighborhood with a wide range of housing types" and an additional pedestrian connection over or under the railroad tracks to connect the railyard and the Northside to Downtown.

The Downtown Master Plan's proposal for the BN Missoula Facility is consistent with other City planning documents, including:

- *The Our Missoula: City Growth Policy 2035, the theme of which is "Focus Inward," and which seeks to redevelop underutilized lots where infrastructure and services already exist in the core of the City. The area is generally considered appropriate for community mixed use land uses.*

- *Missoula's housing policy, "A Place to Call Home" (2019) which encourages the construction of housing in the City's core where transportation, infrastructure, commerce and services are already concentrated.*
- *The Joint Northside/Westside Neighborhood Plan (2000), which calls for redevelopment of the Facility east of the turntable, should the opportunity arise, for potential uses that include housing, recreation, and commercial uses. (See Appendix D.)*

The City believes that redevelopment of some portion of the BN Missoula Facility for mixed uses, including housing, could be compatible with MRL's continued use of the railyard.

The City adopted the original Missoula Greater Downtown Master Plan in August 2009 as an amendment to the City's Growth Policy. It was the first such planning effort for the downtown and was the result of a grassroots effort by supporters of responsible downtown development. Funding was secured through the efforts of the Downtown Business Improvement District and the Missoula Downtown Association from other agencies and private business and property owners. Literally thousands of citizens took part in the crafting of that plan, and a dedicated committee of citizens became part of the Downtown Master Plan Implementation Committee. This group has met monthly for ten years and has overseen the implementation of many of the plan's recommendations. These included such areas as parking policies and improvements, tourism development, infrastructure improvements, land use decisions with an emphasis on residential development, cultural enhancements and a concentrated effort to make downtown more walkable, bikeable, and accessible to all citizens. As a result, close to a billion dollars have been invested in the downtown over the more than a decade following adoption of the plan.

Ten years after the adoption of the first downtown plan, the Downtown Master Plan Implementation Committee recognized that so many elements of the plan had been successfully implemented that it was imperative that the plan be updated. An effort similar to the one that resulted in the first plan was embarked on resulting in Missoula's Downtown Master Plan, which was also adopted as part of the City's Growth Policy in November 2019. Once again, thousands of residents participated in the creation of the plan and have embraced its recommendations. The Downtown Master Plan Implementation Committee continues to meet monthly for the sole purpose of guiding the implementation of the plan's recommendations. Numerous projects now in either the planning or construction stages are a direct result of these two plans.

It is evident that these are not planning documents that "sit on the shelf" once they are completed. Rarely does anything take place in the downtown without the question being asked, "What does the master plan say about this?" These are living, breathing documents that the community and the leadership in Missoula believe in and are committed to bringing to fruition. Both plans recognized the need for housing in the urban core, with an emphasis on the downtown, and both focus attention on the railyard as the single largest opportunity to provide much-needed housing in proximity to employment, shopping, and services. That need has never been greater in Missoula than it is today. The population is increasing, it is aging and developable land is in short supply. The idea of squandering the opportunity to develop the railroad property, once it is no longer needed for railroad operations, to its highest potential in terms of community benefit and need is unfathomable.

Just as the Master Plan is not merely aspirational, the interest in additional housing in this part of town is not merely aspirational. Attachment A to this letter highlights that 27 new units of housing were permitted for construction within 100 feet of the Facility boundary between 2016 and 2020. A number of these units are being constructed adjacent to the railyard. Residential development adjacent to the Facility is likely to continue and will be limited only by the availability of land in the area.

Based on recent and historical patterns of development in the area surrounding the Facility, there can be no doubt that if BNSF and MRL ever decide to divest themselves of any portion of the onsite Facility, or to lease or sublease portions of the onsite Facility, the most likely use for the relevant lands will be for residential development. The only element that would prevent this use would be DEQ's decision to artificially limit the availability of that use by not requiring cleanup to residential standards. It would be a shame for Missoula if the many City planning documents calling for mixed residential use in this area are thwarted because DEQ fails to require adequate cleanup.

Based on recent and historical patterns of development in the area surrounding the Facility, DEQ must consider residential use a reasonably anticipated future use of the onsite Facility north of the main tracks.

Specific Concerns Regarding the Draft Plan

Local Land and Resource Use Regulations

The land within the Facility is zoned as C1-4, C2-4, CBD-4 and M1R-2, which allows a broad range of commercial, light manufacturing and high density residential. The onsite Facility is primarily zoned M1R-2. The City's growth policy recognizes the ability to support residential use in commercial districts to create important relationships between places where people live and work and the appropriate services and amenities nearby. It is quite common to see high-density residential development in the commercial and M1R-2 districts. In fact, in the past six years, 320 new dwelling units have been constructed in the M1R-2 zoning district. That makes up almost 9% of Missoula's total new residential units in the same time frame. The M1R-2 zoning runs through the central core of the city and was originally established as zoning adjacent to the old railway lines. Accordingly, the M1R-2 zoning occurs in the areas most desirable for redevelopment because they are central and close to so many services, utilities and established infrastructure. Because the M1R-2 zoning classification is currently being used for residential development, the City does not support limiting the option for future residential (by eliminating clean-up to residential standards and requiring institutional controls on the site to prohibit residential use) that is already a right by zoning. This is especially true given the challenges of providing opportunities for affordable housing detailed above. Please be clear in your final decision that M1R-2-zoned areas do not merely permit residential use; by design, this district is intended to promote residential uses alongside commercial uses.

Historical Use

The Proposed Plan, at page 19, states that on site, "historically, the Facility has been primarily used for commercial/industrial purposes." Please verify the accuracy of this statement over the entire onsite Facility. It is not clear to a casual observer that substantial portions of the railyard, such as the southeastern corner roughly east of Washington Street (including the former Eastern Fueling Area), or portions adjacent to North 2nd Street East and the residential developments on the south side of North 2nd Street East, are currently in use. If these areas are not currently used by MRL or BN, then it would be more accurate to acknowledge that substantial portions of the onsite Facility have been vacant and largely unused for much of the Facility's recent history. If a substantial portion of the Facility is not currently used for commercial/industrial uses, the statement that these unused portions of the railyard will "continue" to be used for "the existing commercial/industrial uses in the future" is not accurate.

The City requests that DEQ more accurately characterize the present and recent use of the Facility. In order to do so, it may be necessary to bifurcate the portions of the onsite Facility that remain in use as a working railyard from those areas that have not been recently used as part of the railyard operations. The recharacterization of the

Facility in a way that reflects recent history should be incorporated into your reevaluation of reasonably anticipated future uses of the Facility.

Patterns of Development in the Immediate Area

Section 75-10-701(18)(c), MCA, requires DEQ to evaluate the “patterns of development in the immediate area [of the Facility]” in determining reasonably anticipated future uses of the site. The Proposed Plan states, at page 19, that “Patterns of development *at the Facility* [emphasis added] and in the immediate area have been primarily commercial/industrial.” This is inaccurate and does not comport with the meaning of 75-10-701(18)(c), MCA. This statutory provision calls for DEQ to look at the immediate area surrounding the Facility. The uses and patterns of development at and within the Facility are covered by subsections (b).

DEQ’s focus on the pattern of development within the Facility as part of the review under 75-10-701(18)(c) is misplaced, and unreasonably changes the calculus set up by the legislature. The focus for the inquiry under subsection (c) is on the immediate area around the Facility, not inside the Facility, and the Proposed Plan should revise this discussion to account for this important distinction. Looking at the pattern of development within the Facility simply, and without statutory support, duplicates the evaluation completed pursuant to subsection (b).

Patterns of development in the immediate area surrounding the Facility have *not* been primarily commercial/industrial. In Attachment B to this letter, I have provided a map of land use within 300 feet of the Facility boundary. It is clear that residential development is as prevalent in the immediate vicinity of the Facility, as is commercial/industrial use. Additionally, the Proposed Plan implies on page 19 that residential development in the immediate vicinity of the railyard occurs only to the southwest of the railyard.⁴ As is evident from Attachment B, residential development occurs around the Facility in every direction except where Interstate 90 and Rattlesnake Creek make any development impossible and in the central business district surrounding Higgins Avenue.

The City requests that DEQ eliminate consideration of the current use of the Facility when evaluating patterns of development in the immediate area under 75-10-701(18)(c), MCA; DEQ’s inclusion of the facility violates both the letter and spirit of the statute. Please revise the document to state that residential development occurs in multiple directions in the immediate vicinity surrounding the Facility. Please reevaluate reasonably anticipated future uses of the Facility in light of these important distinctions and corrections.

Characterization of the Downtown Master Plans

At page 19, the Proposed Plan appears to cast doubt upon the development pattern anticipated by this community by noting that both editions of the Downtown Master Plan acknowledge that redevelopment of the railyard would be complicated. Local planning officials and City Council-adopted planning documents explicitly state that the anticipated land use of substantial portions of the railyard is residential development. Including the acknowledgments that this will be challenging in the Proposed Plan does not in any way improve understanding of relevant indications of anticipated land use from local planning officials, which is unambiguously that the portion of the railyard north of the main tracks will include residential. Instead, it appears to be an attempt by DEQ to substitute its own judgement about anticipated future use for that of local planning officials. DEQ accepts anticipated future use statements by BNSF and MRL at face value; local planning officials demand the same courtesy. Please strike the acknowledgements of complexity from your Final Plan and reconsider your conclusions regarding reasonably anticipated future uses accordingly.

⁴ “...and the area to the southwest of the railyard is currently used for residential purposes....”

I will note, as well, that as outlined above the Downtown Master Plan is not merely aspirational; much of the plan has been implemented, and the community continues to work earnestly on implementation. Further, Missoula is not deterred by challenges. Whether preserving open space around our valley or acquiring and redeveloping the bankrupt Milwaukee Road railyard and tracks into greenspace or remediating and redeveloping the Missoula Sawmill State Superfund site through a public-private partnership or redeveloping the former White Pine Sash land, our community has navigated difficult land use challenges time and again.

Reasonably Anticipated Future Uses

To conclude this section of my comments, I would like to summarize the City's view of reasonably anticipated future uses onsite in light of MCA 75-10-701(18).

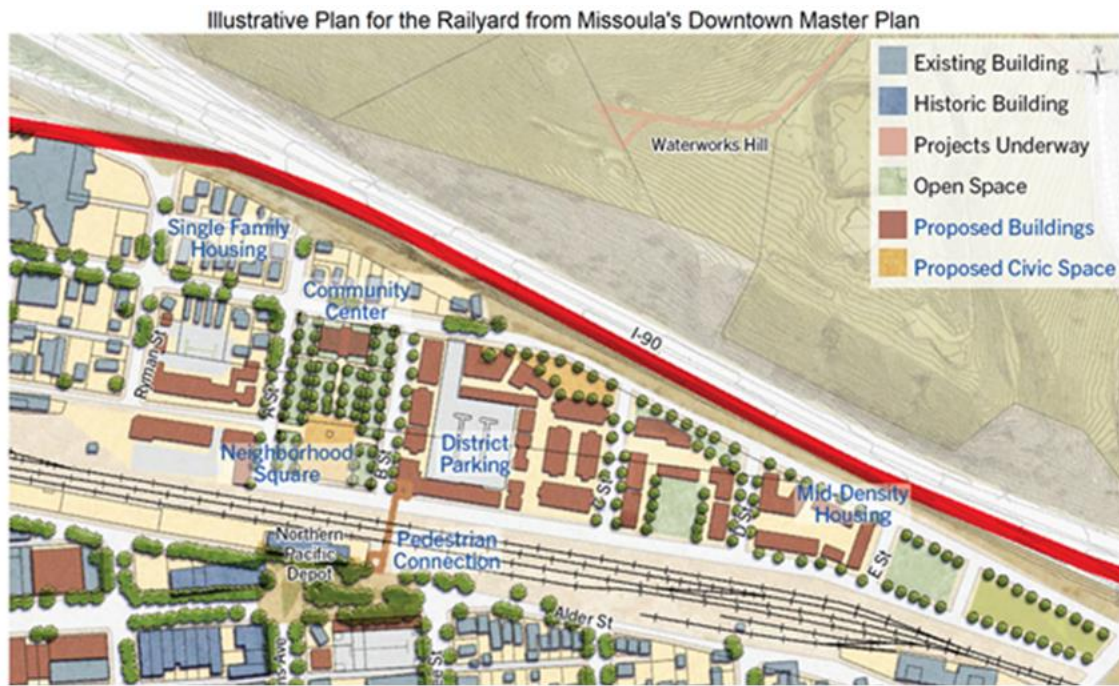
- (a) No local land and resource regulations, ordinances, restrictions or covenants preclude residential redevelopment at the facility. To the contrary, local planning efforts specifically seek to promote residential redevelopment onsite (excluding the track right-of-way) in M1R-2.
- (b) Historical uses of the facility are potentially mischaracterized in the Proposed Plan. The plan accepts as given that the entire onsite Facility is a working railyard. In fact, it may be the case that substantial portions of the onsite Facility are not and have not been used for railroad purposes in decades. If substantial portions of the onsite Facility are not currently used for railroad purposes this, in turn, discredits the assumed use of the onsite Facility is commercial/industrial and that such portions are anticipated to "continue" to be used for railroad purposes.
- (c) Patterns of development in the immediate area surrounding the Facility are as much or more residential than they are commercial/industrial. MCA 75-10-701(18)(c), when read in combination with subsection (b), make it clear that subsection (c) requires evaluation of the immediate area surrounding the Facility, not within the Facility, which would simply duplicate the evaluation done under subsection (b). The City would like to see the Proposed Plan revised to properly evaluate the patterns of development in the area surrounding the Facility, which are as much or more residential than they are commercial/industrial.
- (d) Relevant indications of anticipated land use from local planning officials are simply, and without qualification, that substantial portions of the onsite Facility will be used for residential purposes.

The City also calls DEQ's attention to EPA's Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A)(1989), which "recommends risk assessors 'assume future residential land use if it seems possible based on an evaluation of available information.'" EPA further counsels its own evaluators to look to surrounding land use, which "may suggest how the site could reasonably be used in the future."⁵

The City strongly urges DEQ to reconsider the reasonably anticipated future uses in light of these comments and corrections and the relevant EPA guidance cited above. The only factor from 75-10-701(18), MCA that would weigh against consideration of residential use as a reasonably anticipated future use is the current owner's statements about their foreseeable future use of the site under subsection (d). However, the other element of subsection 75-10-701(18)(d), MCA, the opinion of local planning officials, as well as the balance of subsections (a) and (c), strongly support including residential use as a reasonably anticipated future use, at least for a substantial portion of the onsite Facility.

⁵ Considering Reasonably Anticipated Future Land Use and Reducing Barriers to Reuse at EPA-lead Superfund Remedial Sites, EPA, 2010, Pg.5, fn 8.

It may be that reasonably anticipated future uses of the Facility vary across the onsite Facility. If this is the case, the City urges DEQ to consider the different areas of the Facility separately. For example, the tracks and fueling and office infrastructure on the south side of the tracks may merit a different determination in this regard than would land north of the tracks. The City anticipates that in the future residential use will predominate in the onsite Facility north of the main tracks, as illustrated in the Downtown Master Plan.



Local Experience with Railroads and Brownfields

I would like to complete these comments by highlighting two local experiences that Missoula has had relevant to the determination of reasonably anticipated future uses by DEQ.

First, some of the most prized greenspace in Missoula is former railroad. I have no doubt that at any point prior to its 1977 bankruptcy the Chicago, Milwaukee, St. Paul and Pacific Railroad (the Milwaukee Road) would have attested that its land in Missoula would always be used as railroad. But with bankruptcy the Milwaukee Road began liquidating its assets. Acquisition and redevelopment of Milwaukee Road holdings along the Clark Fork was not easy, requiring the goodwill of local investors to serve as interim owner; passage of an open space bond by the citizens of Missoula; agreement by the Court overseeing dissolution of the Milwaukee Road; collaboration among the City, Missoula County Public Schools and the University of Montana; and more. But today the former Milwaukee Road is part of Missoula's prized south riverfront park, Hellgate High School's physical education fields and the University of Montana's practice and intramural fields.

The photo below is looking west from approximately Hellgate Canyon in 1962; you can see the double line of rails and other Milwaukee Road and Exxon infrastructure blocking the riverfront all the way to the passenger station just west of the Higgins Avenue bridge.



Today, as the Google maps screen capture below evidences, former Milwaukee Road property is part of Missoula's treasured riverfront greenspace.



MRL and the tracks that run through Missoula are a community asset, and I hope we'll have them for the foreseeable future. But to suggest that the only reasonably anticipated future use of the entire railyard is as a railyard, in light of the four factors discussed above, in light of technological changes affecting rail operations, and in light of the inevitability of change, defies experience in Missoula and elsewhere and is patently unreasonable.

Second, as DEQ considers reasonably anticipated future uses at the BN Facility, I urge you to recall the lessons of an analogous state superfund site in the core of Missoula. For many years the owner insisted that the Scott Street Partners LLC parcel at White Pine Sash would only ever be redeveloped as commercial/industrial, and that that was the only future use that could be reasonably anticipated. When DEQ required cleanup to residential standards for a portion of that parcel, residential redevelopment plans for that portion followed almost immediately. Had DEQ required the entire Scott Street parcel to be cleaned up to residential standards, it is highly likely that the rest of parcel would have been redeveloped for residential uses. In many respects, the DEQ determination of reasonably anticipated future uses served as a self-fulfilling prophecy at the White Pine Sash site. The City urges DEQ not to make the same mistake at the BNSF Facility and not to artificially limit redevelopment potential.

Acceptability of the Proposed Action to the Affected Community

As discussed above, in selecting a remedial action DEQ must consider present and reasonably anticipated future uses under 75-10-721(2)(c), MCA. However, DEQ must also consider the acceptability of the actions to the affected community as indicated by the local government, as well as the local community. See 75-10-721(3), MCA. The City of Missoula will consider unacceptable any proposed remedial plan that limits onsite Facility cleanup levels to commercial/industrial and thereby a) vastly complicates residential redevelopment, and b) transfers the expense of full cleanup from the responsible party to a future developer. The City's planning documents clearly support increased residential use in this area. The City's Housing Plan calls for increased housing density in the urban core, including the area making up the Facility. Indeed, developers are presently developing available land surrounding the Facility for use as higher density residential development. DEQ must not artificially limit the use of the entire Facility for future residential use by making unreasonable assumptions in the proposed plan. In the event BNSF and MRL decide to divest themselves of any portion of the Facility, or to lease or sublease portions of the property, the City and the local community strongly desire that the land be available for residential use. Thus, any action that forecloses this opportunity will be unacceptable.

Conclusion

The City strongly urges DEQ to consider residential use a reasonably anticipated future use for the portion of the onsite BNSF Facility north of the main tracks. To assume that no residential development would occur in this area is unreasonable and turns a blind eye to history, the surrounding patterns of development and the City's land use plans and regulations. Please help create the future that this community earnestly desires by reconsidering the evaluation made in the Proposed Plan concerning reasonably anticipated future uses.

If DEQ is not ready to conclude that residential use is a reasonably anticipated future use for all or at least a portion of the Facility, then I suggest that the agency consider stipulating a delay to completing the surface soil portion of the Record of Decision. Delaying the record of decision relative to surface soil would not impact the Proposed Plan since, as it stands, the Proposed Plan will do nothing relative to surface soil. Accordingly, DEQ could consider suspending judgement on reasonably anticipated future uses for five years and return to this issue when there may be more evidence one way or another to make such a determination.

Thank you for considering this information and for your work to ensure protection of a clean and healthy environment. Please advise if I may be of any additional assistance.

Sincerely,

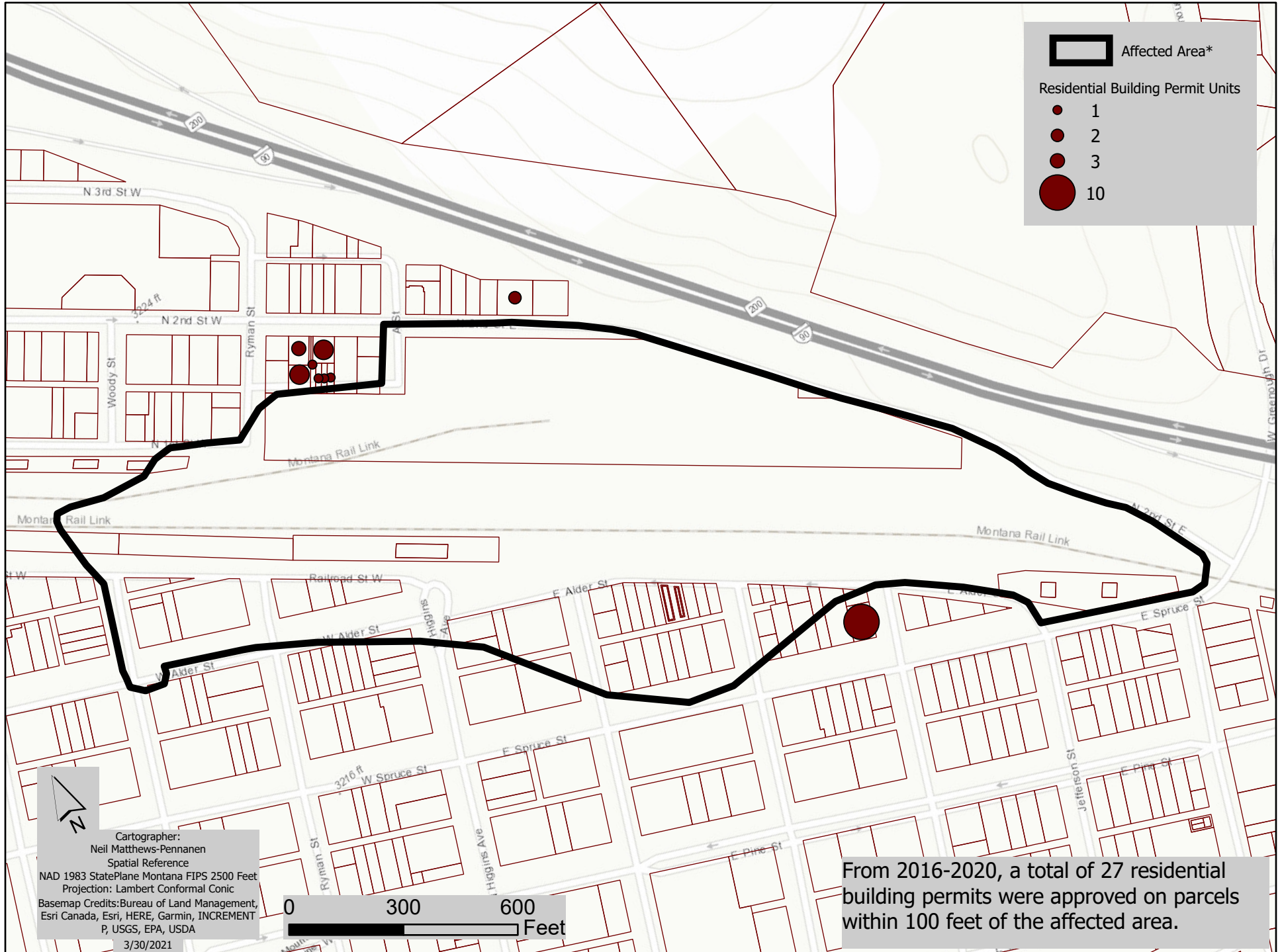
A handwritten signature in black ink, appearing to read "John Engen", with a stylized, flowing script.

John Engen
Mayor

cc: Jordan Hess, Chair, Land Use and Planning Committee, Missoula City Council
Ellen Leahy, Director, Missoula City-County Health Department

Building Permits Approved within 100 ft of Area Affected by BN Fueling

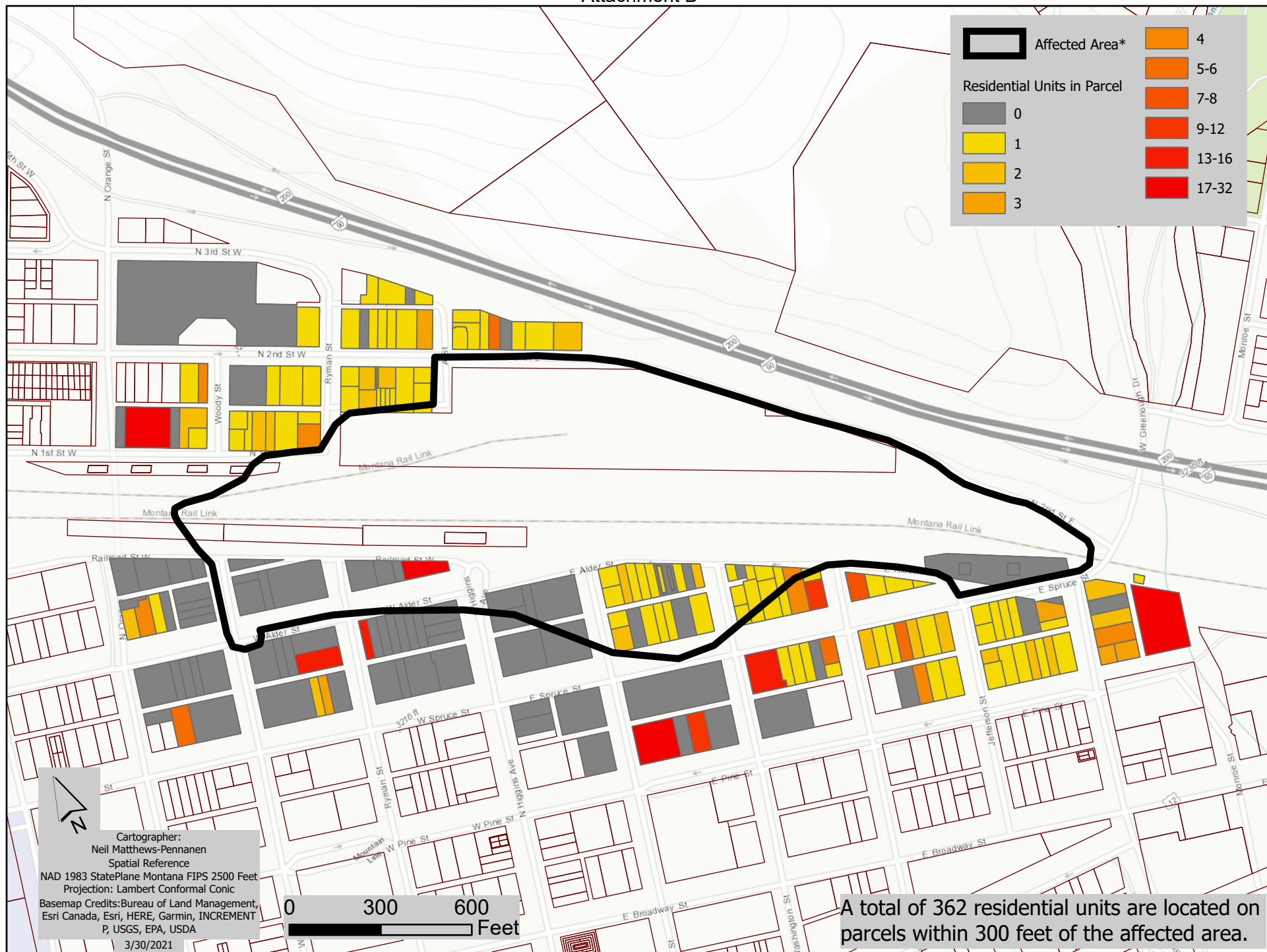
Attachment A



*Boundary depicted is an estimate

Residential Development on Properties within 300 ft of Area Affected by BN Fueling

Attachment B

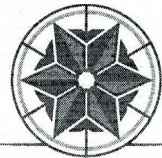


*Boundary depicted is an estimate

Missoula County Commissioners

Mailing Address: 200 West Broadway
Physical Address: 199 West Pine
Missoula, MT 59802-4292

P: 406.258.4877 | F: 406.258.3943
E: bcc@missoulacounty.us



Missoula
COUNTY

BCC 2021-088
April 22, 2021

Zachary Neudeck
DEQ Waste Management and Remediation Division
P.O. Box 200901
Helena, MT 59620

Dear Mr. Neudeck.

The Missoula Board of County Commissioners has reviewed the proposed plan for the Burlington Northern (BN) Missoula Facility.

Given the need for health equity improvement and affordable housing in Missoula, particularly in the Northside/Westside community, we are concerned that the proposed remedies for site cleanup do not anticipate the potential for future residential use on the site. We request that the proposed plan be amended to consider soil remediation to residential standards for the vacant areas of the site that are no longer part of the active railyard.

The cleanup proposed in the plan involves bioventing and allowing natural processes to bioremediate the remaining petroleum contaminants in the groundwater and subsurface soils. Soil levels of petroleum hydrocarbons and metals exceed residential screening values throughout the site. However, under the assumption that future use of the entire site will remain industrial/commercial, there is no plan to remove the heavily contaminated surface soils.

There are many indicators that this land, at least some portions of it, will not remain in industrial/commercial use. Since the discovery of the petroleum-product contamination in the 1980s at BN, the property owners have demolished and divested much of the eastern fueling area and former roundhouse areas of the facility, which now are largely vacant and unused. Given the trend of growth and development in Missoula, the need for more affordable housing, and the currently available options for vacant land in the downtown area, the unused portions of the Burlington Northern (BN) Missoula Facility are very desirable for residential development. Thanks to a Robert Wood Johnson Foundation Invest Health grant, Missoula County has recently collected data from local neighborhoods and identified that the Northside/Westside neighborhoods near the Burlington Northern (BN) Missoula Facility need more affordable housing, sidewalks, parks and open spaces. A vision of residential development for this is also depicted in Missoula's Downtown Master Plan, which recognizes the need for housing in the urban core with a neighborhood focus on downtown. The need for housing has never been greater in Missoula. The potential that exists with the railyard between the railroad tracks and I-90 is the

RECEIVED

MAY 4 - 2021

Office of Environmental Quality
• Remediation Division

single largest opportunity to provide much needed housing in proximity to employment, shopping and services.

If these unused sections are sold for development, it is likely that taxpayers will ultimately be responsible for paying the additional cleanup costs. We have seen recent examples of this in White Pine and Sash, Misso la Sawmill and the former Bonner Mill sites, wherein some form of taxpayer dollars (Tax Increment Financing, Urban Renewal Districts, etc.) have subsidized higher level cleanup to meet the community's vision for redevelopment.

We feel that screening soils against commercial/industrial standards instead of residential standards is not protective of the community. We request the proposed plan be amended to consider soil remediation to residential standards for the vacant areas of the site that are no longer part of the active railyard.

We appreciate the opportunity to comment.

Sincerely,

BOARD OF COUNTY COMMISSIONERS

David Strohmaier

~~Dave Strohmaier, Chair~~

eadesign

Josh Slotnick

~~Josh Slotnick, Commissioner~~

eadesign

Juanita Vero

~~Juanita Vero, Commissioner~~

eadesign

BCCNP

907 Turner Missoula, MT 59802

On certain Saturdays in Missoula, Montana, it's Game Day for the Montana Grizzlies! Washington Grizzly Stadium will fill to its capacity of 23,000 + loyal, cheering fans, identified by The University of Montana™ colors of maroon and silver. The stadium is located on the banks of the Clark Fork River, which runs through Missoula's downtown just a short distance away and easily accessible by well maintained river trails.

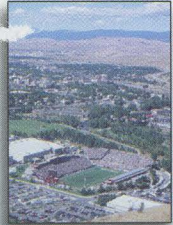


The University of
Montana



RE: Burlington Northern Site
Missoula is in the midst of a
terrible dire housing crisis. The
assumption that "reasonably
anticipated future land use" is
commercial/industrial is absurd.
Residential dominates the surrounding
area and this site would immediately
be as well if cleaned
up appropriately.

Published by Reflections
Photographs and Geary 2004
Distributing, Box 62, Helmville, MT 59843 (406) 721-1295
reflections@montana.com



Thank
you

Space reserved for U.S. Postal Service



SCANNED

Dept. of Environmental Quality
Remediation Division

POST CARD

ZACHARY NEUDECK
DEQ WASTE MANAGENT &
REMEDSATION DIVISION
P.O. Box 200901
HELENA MT 59620

RECEIVED

APR 6 - 2021

REF-125

Zachary Neudeck f.HBf;C.NJt.A
and Montana DE

we w0vt
tz>kup vUY
neighborhood
to residential
standards
for cleanup.
the railway.

Thank you,

Kaysi & Rickard
120 N 2nd St EPH 102



Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

MAY 4 - 2021

Dept. of Environmental Quality
Remediation Division



North
Missoula
Community Development Corporation



Clean our neighborhood up to residential standards!

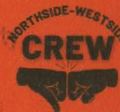
The Montana Department of Environmental Quality (DEQ)'s conclusion regarding the anticipated future land uses for the Burlington Northern Missoula Facility in Missoula's Northside neighborhood - my neighborhood - is NOT acceptable.

Housing is a reasonable anticipated use of this site, as indicated by historical use, need for housing, current zoning, and our City's Master Plan and Growth Policy.

I ask that the DEQ (1) change your conclusion regarding future anticipated land use and (2) thusly require that the Facility be cleaned up to residential standards now by the Responsible Party, BNSF.

Sincerely,

| hi | 111111 | lii | | I | , | i | 11



Zachary Neudeck
and Montana DEQ

MISSOULA MT 598

30 APR 2021 PM 3:17

*Let's clean up
the site & make it
a safe option
for housing
Saturday.*

Thank you,

Sphe O'Brien

*614 N 2nd St
Missoula, MT 59802*



Zachary Neudeck

DEQ Waste Management and
Remediation Division
P.O. Box 200901

Helena, MT 59620

RECEIVED

MAY 4 - 2021



Zachary Neudeck
and Deborah

is

in

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

Let's Not

is

in

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

of

the

Focus - we need

housing! Also that

there's no place

for to go to

is

Neudeck

[Signature]

[Barcode]



Zachary Neudeck

DEQ Waste Management and

Remediation Division

P.O. Box 200901

Helena, MT 59620

RECEIVED

MAY 4 - 2021



ZACHARY NEUDECK
DEQ WASTE MANAGEMENT
MISSOULA MT 59620



Zachary Neudeck

DEQ Waste Management and
Remediation Division

P.O. Box 200901

Helena, MT 59620

MAY 4 - 2021

RECEIVED



st

My Name is
I live at 430 North
and 4th St
Please call me at
1/2 ct

Thank you,

Helena S Campbell

Missoula, MT 59801
and 509, 540-0000

MAY 4 2021

Please clean

up this area
to residential
standards. I live
here! I would
love for more
neighbors to as well!

Thank you,

Valeie Bell

514 N 2nd St W
Missoula MT 59802



Zachary Neudeck

DEQ Waste Management and
Remediation Division
P.O. Box 200901

Helena, MT 59620

RECEIVED

MAY 4 - 2021



Zachary Neudeck
and Montana DEQ

Missoula needs

more housing.

Particularly AFFORDABLE
housing.

MAY 4 - 2021

Missoula, MT

Dept. of Environmental Quality
Remediation Division

Corinne Gahn



Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620



Zachary Neudeck
and Montana DEQ,
M&'Oola

t1£i
Cote oC; .1,\b?.
r\ck< .,n.ou.te:=
-1/2OUe
MAY 4 - 2021

Thank you,
Dept. of Environmental Quality
Remediation Division
- Loc're-2:t



Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620



Zachary Neudeck MISS(Lt..fLt.'i.-' fi
and Montana DEO

f-es 101: 2 :;"



Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

ti c f-

MAY 4 - 2021

Thank you,

erk

fi:pt. of Environ mental Quality
Remediation Division

L,Sce

o.

F

pl l,11:L, U 11111,11 11111

N North
Missoula
Community Development Corporation



Zachary Neudeck
and Montana DEQ

MISSOULA MT 598

20 APR 2021 PM 11

Please do right

by waste and our

neighborhood!

Thank you for

consideration

Thank you,

Zachary Neudeck

1110 N. 2nd St. Missoula, MT 59802



Zachary Neudeck

DEQ Waste Management and

Remediation Division

P.O. Box 200901

Helena, MT 59620

MAY 4 - 2021

Dep. of Environmental Quality
Remediation Division



Zachary Neumann
DPO 00100 of EO

Clean it up to

residence

before the check

is it a

himself

RECH Helena, MT 59620

MAY 4 - 2021

Dept. of Environmental Quality
Remediation Division

North
Missoula



Zachary Neumann

DEQ Waste Management and
Remediation Division

P.O. Box 200901



ZACHARY NEUDECK
DEQ WASTE MANAGEMENT
DIVISION
P.O. BOX 200901
HELENA, MT 59620

PLEASE C-1000

CLEANING UP THE

SUPER FUND SITE FOR

FUTURE RESIDENTIAL

STANDARDS.

THOMAS

CRISIDY TUCKER

W. 8. 411 1111
HELENA, MT 59620



Zachary Neudeck

DEQ Waste Management and

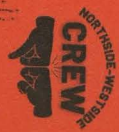
Remediation Division

P.O. Box 200901

Helena, MT 59620

RECEIVED

MAY 4 - 2021



Zachary Neudeck
and Montana DEQ

MISSOULA MT 598
MAY 4 2021 PM 11



I will not
rest day.
It would be
great
clean-up

Thank you,

Cori Whithers

Dept.



RECEIVED

MAY 4 - 2021

Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

Zachary Neudeck
and Montana DEQ

Missoula, MT

all of the housing
possible in order
to accommodate growth.

Thank you,
Ted McArthur

527 N 2nd Street W

MISSOULA MT 598
30 APR 2021 PM 11



Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

RECEIVED

MAY 4 - 2021



Zachary Neudeck
and Montana DEQ,

Life overall
would change for
the better if we
clean up after
ourselves and rid
of toxins.

Thank you,

Charles Kauffman
430 N 2nd St West
Missoula



Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

RECEIVED

MAY 4 - 2021

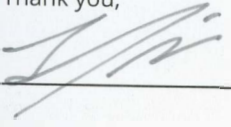


* HCB3A5710483 *

and Montana DEQ

24
r s-l
S "f" J de "f"
of n (LL fr
S. J. c aU t Stel
h (, Hltc, e ,
lo s /J Y SJw
Missoula, MT 59802

Thank you,

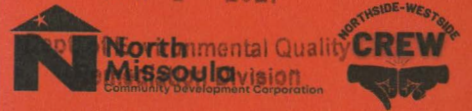




Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

RECEIVED

MAY 4 - 2021



Zachary Neudeck
and Montana DEQ

CLEAN UP

THE THANKS

Thank you,

DAVID L. EPPMAN

213 2ND ST.



Zachary Neudeck

DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

RECEIVED

MAY 4 - 2021



Zachary Neudeck
and Montana DEQ

MISSOULA, MT 59802
30 APR 2021 4PM 12

CASBY ZABLOCKI

124 N. 2ND ST. W

MISSOULA, MT 59802

I could have

Handled The Roadways

CLEANED

Thank you,
↙



Zachary Neudeck

DEQ Waste Management and

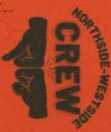
Remediation Division

P.O. Box 200901

Helena, MT 59620

RECEIVED

MAY 4 - 2021



Si r H 1.03 - whanich

zobib Neudeck

Ord o. to. D. off o

4



Zachary Neudeck

DEQ Waste Management and

Remediation Division

P.O. Box 200901

Helena, MT 59620

RECEIVED

MAY 4 - 2021



Northwest Environmental Quality
Missouri Division
Community Development Corporation



Thank you,

MIKE HANICH

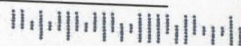
Missouri

zi hary udeck
and Montana DEQ
Day VA Cha

12-ON. J)tvI S+ -G0I
Nlo5;WA\ rMIS1 2
-CU, nit -1/4P'- h
t!V S)f{ -lo/
lli \vtdnSw h

Thank you,

[Signature]

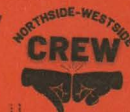


Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

RECEIVED

MAY 4 - 2021

Dept. of Environmental Quality
North Division
Missoula
Community Development Corporation



Zachary Neudeck
and Montana DEQ

CLEAN

IT

UPI

1040..B jccj

Carrie Z.



Zachary Neudeck

DEQ Waste Management and
Remediation Division
P.O. Box 200901

Helena, MT 59620

RECEIVED

MAY 4 - 2021



ZIP CODE
59620

MISSOULA, MT 59620



Please clear

up the BUSF
Site to Residential
Standards!

Thank you,

Travis Kinkert
VINE: Pine
St, Missoula, MT

Zachary Neudeck

DEQ Waste Management and
Remediation Division
P.O. Box 200901

Helena, MT 59620

RECEIVED

MAY 4 - 2021



Zachary Neudeck
and Montana DEQ

This area
could / should be
used residentially
please clean
this space
appropriately.

Thank you,

ERIN Hale



Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

RECEIVED

MAY 4 - 2021



32. "1111, -r



Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

RECEIVED

MAY 4 - 2021



>...r??1??ad?,,,t,....?

Thank you,

N\Coll6 #MCM



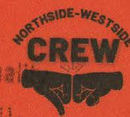
Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

RECEIVED

MAY 4 - 2021



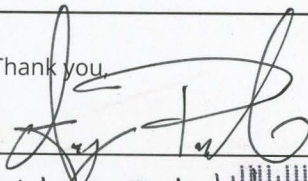
North
Missoula
Community Development Corporation



Zachary Neudeck
and Montana DEQ

I ask that the DEQ consider +
follow through with the requests
outlined on the front of this post
card for the health, safety, well-
being + care of our community.

Thank you,


Audrey Bonguelet

MISSOULA MT 596

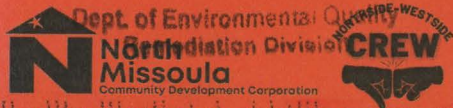
01 MAY 2021 PM 1 L



Zachary Neudeck
DEQ Waste Management and
Remediation Division
P.O. Box 200901
Helena, MT 59620

RECEIVED

MAY 4 - 2021





MISSOULA DOWNTOWN ASSOCIATION
BUSINESS IMPROVEMENT DISTRICT
MISSOULA DOWNTOWN FOUNDATION

March 29, 2021

Zachary Neudeck
Montana DEQ: Remediation Division
P.O. Box 200901
Helena, MT 59620-0901

Mr. Neudeck,

On behalf of the Missoula Downtown Association and its 550 business members, we appreciate the opportunity to learn about and provide input on the Proposed Plan for the Burlington Northern (BN) Missoula State Superfund Facility.

We have two specific requests:

- We support extending the public comment period to provide more time for the public's feedback.
- We request the Facility be remediated to residential standards, not commercial/industrial standards only.

The Department of Environmental Quality has stated that based upon its evaluation it "... has identified the reasonably anticipated future uses of the BN Missoula Facility as commercial/industrial...". We suggest the anticipated future considerations need further vetting with respect to possible residential development. To base use solely on BN and/or Montana Rail Link (MRL) statements of "anticipated future" denies the potential consideration for other future opportunities.

While we understand the tracks will be here for many years to come, the future of that site is planned for residential use, as noted in both the 2009 and the 2019 Downtown Master Plan. If and when the site will be redeveloped, the DEQ's requirements for clean-up should not limit the potential and the need for residential development on some or all portions of the property. The Facility is immediately adjacent to a vibrant city center, and the future of the site has the potential to contribute to the health of our city's core. The community needs and vision are for that site to eventually be converted to housing, not *industrial*, and therefore the cleanup of the superfund site should be to residential standards.

We agree *with* our community leadership: there is no reason future owners or operators of the Facility should bear the *financial* burden of remediating the property contaminated by the railroad.

Thank you for your consideration.

Linda K. McCarthy
Executive Director

RECEIVED

APR 2 - 2021

Dept. of Environmental Quality
Remediation Division

ATTN: ZACHARY NEUDECK,

RECEIVED

APR- 2021

Dept. of Environmental Quality
Remediation Division

I AM WRITTING TO REQUEST

BURLINGTON NORTHERN PROPERTY TO THE NLFJF
AND EAST ALDER STREET, CONTAMINATED DURING
HISTORIC FUELING PROCESSES, BE CLEANED TO
A RESIDENTIAL STANDARD.

In MISSOULA HOUSING AND AREAS THAT
CAN BE DEVELOPED INTO FUTURE
OUR COMMUNITY'S MOST VALUABLE

THE PL(HS)TTI
AT 4

005T.

-r 9 OF -u/s Gt) 1)r-M
fJv l.O... H'f /Vtv(jf 8£ CV<.,T# (.£0, If>ILff(
r,Av r \?e_ /Jnr< 1A0 To 1 !v(NIW /,,f6QJiHf
A") c).JrJr.RS. TµL "-f c;roe.s. t{, sr ilL /£
0 10 2£ VA\R- N kt-v T)AMA&fL
tµ_ \ µ£- T 'J c, r OVR /V<YH?>R) (OD,f).
K t ..R..

DaL\ (Yr. Ntuc_e_e\

T a111 6- N⁰¹-1\cl e- re:ciclw-L C\re\ re_V<eJE11A i Vir> aveo c
-ro,, D 1·Yt_ N,J Q1 lo c1\ CuW\ (tL
7Ye_, bLLv11nc.ifnq NCY-\le_,,, R(I'lclrc\,s\,Dit\cl be cle,mer\
to (\ 'C-J\DEJ\-\ \ L \eJf\ CVC\ -\le, C_y(trlt p\bl t \e:{")t c\ cl-ec-v, u V
p(\, \ N1\, \ \ t\c\inc j d ftQjO(11\ \ e \-u-u.ve. U')t \ N0.1
ACCL p, cltJe_

In e_ nwvw-1 201\in r.) H IK \",ic\, a10\, \) "l tu, 1e":ilt1, \, a\
lr_c' M.Ac\, ol -\ve., t)\ C\llec\ ec\ C\veC\ f(I-J \cl D4""C\ i U:-it"cl 0 a
Po11 11s cl hv, c > ylih11vi-L 11mG\Jj\ CA -\Mit " \\\It \b3X\)\L,r'voel
hoJ \,t'e\ i o- pe, \evcl vtS 1't h e, r'E'J1cle I h (\ I e6f.\ \f1tiv1\ \el\ \, e':lytL \c, \ly
a\oi'3 \le_ m1\'-idr-cl LGv,c\if, (L1.v\en\ \I 1\le_ /i'e_ ev a\ \U\1 clrn"Jly
r(")I\clt,cl projects 1111j ((1'->11-1(Icc\ CAO.1LV1-1 k -\11"J J1e :

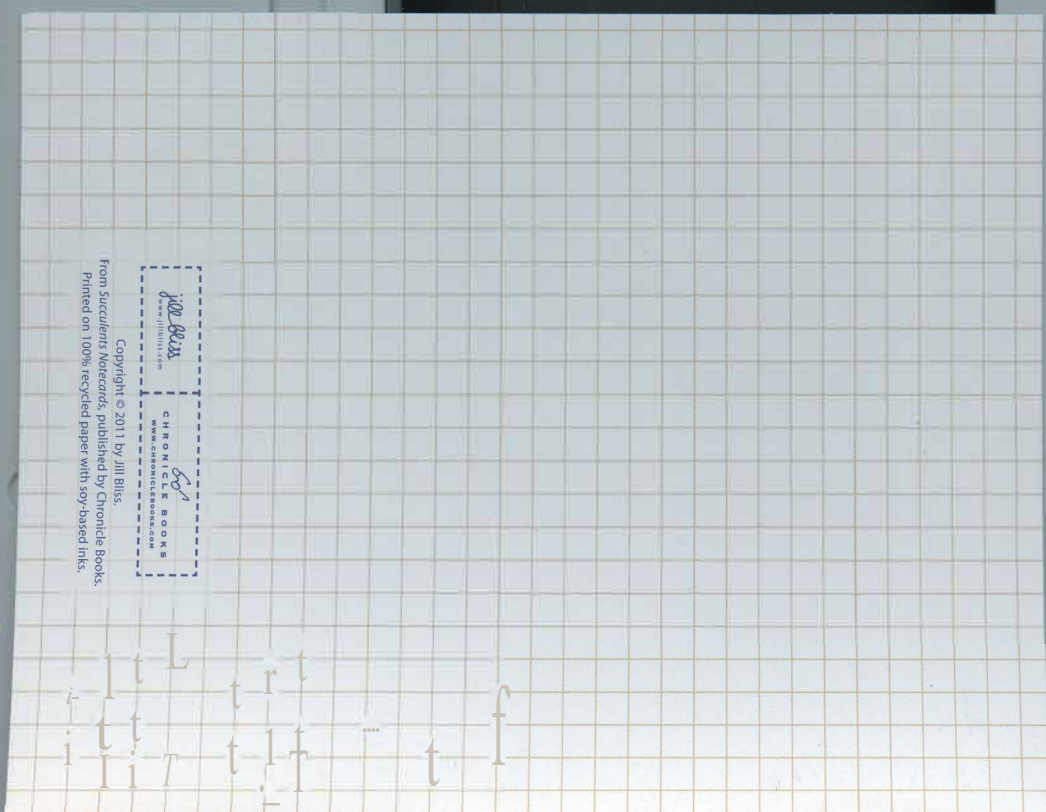
-1)\C,1AA_n\, hcl-j_e_e_ b -\lt fol
-1\1\ \, -\,e_ (':NL 0W012. \LU\11'(\ vie
)\ f Q C\ v\ -\c \ (t:,cf\J\ \,uex\ YO lo
(\xi u9 a\ \ e,11\W D\ \ (1-ICJ- Lt licW\1111(\c cl
5 e_ (tfic\, \ "llo\:\c\ b doile. ,v' o-
'1" \ -\rc\-\ c\ot).n6\ \,v\ \le_ \-uJ' C
Vdt ol ,\lt- t"Jc C\YC\ J1\ Qv\led -\Ve_
(\Y Vt\1-\) tu,\-,H L. Y:c< \Kv-1e:> C)
11j>C(c\ vlect LA)\ -\11
0WOvilUli\ \ rD holc\ -\Je -t'JJo)) YJl e
M\ \, \ ?\v\ \V1\ \I1 \Jc -\K Vi\ C\ LQJ_0 \w VJf
-eYvvG1 \,ev\ kJ \YI \Xl\ r-o -tYl:
(tl, \ q-Qo lu \iv\ S Jle.



RECEIVED
APR 2 - 2021
Dept. of Environmental Quality
Remediation Division

\XOJIW "1lit
\ \to.vt .)11St \-ttWAfdOv>v1k
{jv {MMQd fu -\vtt '5N')f"
rOvj d Ir\ -/s6vl\ £\ \VWVt,
\ L'lv-. \ \AY\ckrS6Ytet Is li.A-«
flt> 'b"n -h +o re)ldtinhl\l
cionls. \ v\c it is 1Mr6r-hn+
.l',v 6,yf Lt'NI -\> VI!Wt
S? IA.vZA,dwblt, -\b r-e)1CW"li"S,
P\klk<£.. -ttAfe u,n-tNUil+s
)\ -\-\u.J-) W\ xx.ft') ,\ou__
-b- C r - qwi+:) UCLWwf
7V4o:itvt,
-twwLMOA
'LD\o- 3DD- 7qt\5"
ss61A-ANov-1sck..

* H C B 3 A 5 7 1 0 4 8 3 *



Jill Bliss
www.jillbliss.com
CHRONICLE BOOKS
601

Copyright © 2011 by Jill Bliss.
From Succulents & Vasecrafts, published by Chronicle Books.
Printed on 100% recycled paper with soy-based inks.



March 29, 2021

Zachary Neudeck
DEQ Waste Management and Remediation Division
P.O. Box 200901
Helena, MT 59620

Re: BN Missoula Proposed Plan

I support cleaning the BN site up to industrial/commercial cleanup standards. The site is not appropriate for residential development and should be expected to be used for rail use far into the future. It was a mistake for the Downtown Master Plan for Missoula to propose this land be used for residential use. My experience with the Downtown Master Plan is that it was not developed considering environmental suitability of the site for residential use and the planning process did not have adequate participation from the general public. Reasonable future land use for this site is for rail.

A handwritten signature in black ink, appearing to read 'IM', is positioned above the printed name of the sender.

Ian Magruder
6 Columbine Rd
Missoula, MT 59802



Mark B. Engdahl
Manager Environmental Remediation

BNSF Railway Company
800 N. Last Chance Gulch, Suite 101
Helena, MT 59601

Phone (406) 256-4048
Fax (406) 449-8610

April 30, 2021

Sent via electronic mail

Zachary Neudeck, Project Officer
DEQ Waste Management and Remediation Division
P.O. Box 200901
Helena, MT 59620
zachary.neudeck@mt.gov

Re: Public Comments: Proposed Plan for Missoula Railyard

Dear Mr. Neudeck,

Thank you for the opportunity to comment on the Proposed Plan. BNSF appreciates the DEQ effort in reaching this stage of the cleanup and looks forward to advancing work at the site.

Starting in the late 1800's, predecessors to what is now the BNSF Railway Company (BNSF), developed and operated a railyard in Missoula, Montana. The railyard property includes both mainline track and supporting railroad infrastructure. Since the late 1980's, this property has been operated by Montana Rail Link. The railyard and mainline provide a critical link for interstate commerce moving to and from the West Coast. In addition to providing a transportation route for the goods that Montanan's buy and sell, railroad operations along this line have been identified as critical to national security interests. See Strategic Rail Corridor Network (Stracnet) And Defense Connector Lines, Military Surface Deployment and Distribution Command Transportation Engineering Agency (2018) (available at www.sddc.army.mil/sites/TEA/Functions/SpecialAssistant/RND%20Publications/STRACNET%202018_Reduced.pdf).

What is now the Montana Department of Environmental Quality (DEQ) identified the Missoula Fueling Facility/Railyard as an environmental site in approximately the 1980s. Since that time, BNSF has, under the oversight of the DEQ, worked for many years to advance the Missoula Railyard to a final cleanup. We appreciate the DEQ's effort to engage the community of Missoula along the way, including prior engagement of the City and County before the Proposed Plan was issued, and are committed to completing the cleanup described in the Proposed Plan. We are concerned, however, with recent comments suggesting a non-railroad future use for this private property. There is no doubt or dispute that the past, current, and reasonably anticipated future use of the property is for railroad related activities - a commercial/industrial use.

BNSF understands that some commenters have suggested that commercial/industrial use is inconsistent with Missoula's Master Plan for the Railyard Property. BNSF, the owner of record of the Missoula Railyard, was not consulted when Missoula developed its "Master Plan." We understand that this plan identifies the Missoula Railyard as better suited for residential housing. This, some commenters have urged, suggests the appropriate clean-up levels should be residential ones. BNSF has also heard commentators suggest that residential use will automatically follow a clean-up to residential standards. BNSF strongly disagrees.

BNSF's property is used for interstate railroad facilities and operations and there are no plans to use it for any other purposes so long as it is owned by BNSF. Neither the City nor the County has any authority to change the use of BNSF's property, now or in the future, or to attempt to use zoning authority to force BNSF to cease interstate railroad operations on its property. See, *City of Auburn v. United States*, 154 F.3d 1025 (9th Cir. 1998). Setting aside national security concerns, neither BNSF nor the current rail operator can just terminate rail service, even if BNSF were so inclined, absent express approval from the Surface Transportation Board.

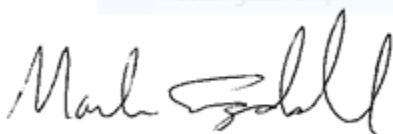
Simply put, the only reasonably anticipated future use of BNSF's property is for commercial and industrial uses that are consistent with interstate railroad facilities and operations, and the appropriate cleanup standard for the railyard is that currently contained in the Proposed Plan.

BNSF appreciates the public engagement and interest relating to the cleanup, but individual or municipal desires to convert property used for interstate railroad facilities and operations to another use do not change the existing and planned use of the property. BNSF urges DEQ to finalize the Proposed Plan and welcomes moving the Missoula railyard forward towards closure under Montana state law.

Sincerely,

Mark Engdahl
Manager Environmental Remediation

Rectangular Snip

A handwritten signature in black ink, appearing to read "Mark Engdahl", is positioned below a light blue rectangular box containing the text "Rectangular Snip".

cc: Moriah Bucy, DEQ



April 20, 2021

Zachary Neudeck, Environmental Project Officer
Montana Department of Environmental Quality Remediation Division
P.O. Box 200901
Helena, MT 59620-0901

Dear Mr. Neudeck:

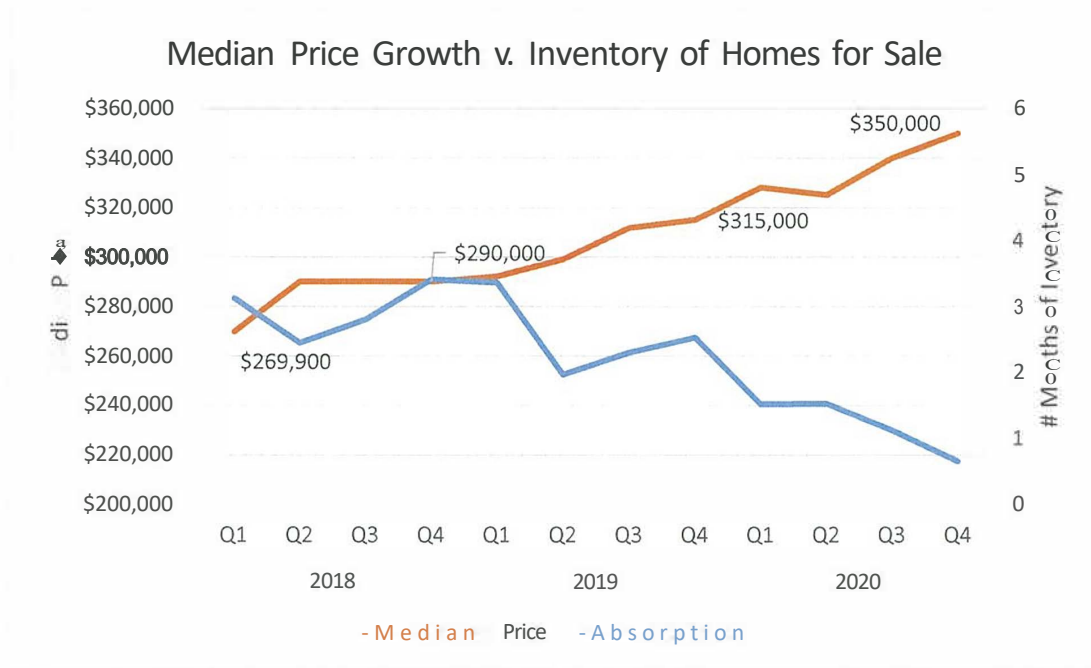
Missoula Organization of REALTORS® (MOR) appreciates the opportunity to provide comment on the proposed plan for the Burlington Northern (BN) Missoula State Superfund Facility. MOR is a trade association, representing over 850 members in four western counties, dedicated to advocating for equal housing opportunities and private property rights. Homeownership directly impacts neighborhoods, communities, and economic stability. We recognize the need for the production and rehabilitation of quality, safe, and affordable housing in our communities.

We are opposed to the current proposal to limit the site remediation only to a level of commercial/industrial use. This lower level of cleanup would preclude future potential residential redevelopment next to the City's core. This site was identified by the City as a potential housing/retail/recreational area in both the 2009 Missoula Greater Downtown Master Plan and again in the updated 2019 Master Plan.

Home prices in Missoula have increased since 2008 and incomes have not kept up, making it challenging for many Missoulians to buy a home. One of a number of factors contributing to home prices is a shortage of housing, particularly in more attainable price ranges.

Price Range	Active Listings	Sold YTD	% of Inventory	Absorption * (months of supply)	Listings Normal Market** (3-9 months)	Supply Gap (I active & normal)
\$0 - \$150,000	0	4	0	0	8	8
\$150,001-\$300,000	9	14	10.0	0.64	28	19
\$300,001-\$450,000	36	105	40.0	0.86	210	174
\$450,001-\$600,000	13	47	14.4	0.65	94	81
\$600,001-\$750,000	10	25	11.1	0.91	50	40
\$750,001+	22	21	24.4	2.44	42	20
Total	90	240	100.0	0.93	432	342

(source: Montana Regional MLS Data as of March 31, 2021)



*Absorption is a measure of market supply, considering both days a house is on the market and the number of houses available for sale. Normal market is considered between 3 and 9 months of supply, while less than 3 months is under-supply.

**Used mid-point of range (6 months) to calculate needed active listings.

Both charts illustrate Missoula's lack of housing supply and the impact on continuing increases in median price of homes. At current sales volume Missoula needs an additional 342 home (or 3.8 times current active listings) to be at the mid-point of a normal market.

Creating opportunities for residential redevelopment near the City's core provides both much needed land, but also land with existing infrastructure thereby helping to reduce development cost. With the site cleaned to residential standards this property could be readily converted to homes.

Attainability of homeownership for the majority of our community is not currently possible. We would urge the DEQ to reconsider its remediation plan to include clean-up to a residential standard for the portion of the onsite BNSF Facility north of the main tracks. To preclude the option for mixed use residential redevelopment opportunities within the city's core only further entrenches the barriers to improving supply.

Respectfully,

Jim Bachand
Chief Executive Officer

Cc: City of Missoula, Missoula County



Big Sky Country
MONTANA STATE LEGISLATURE

Zachary Neudeck
DEQ Waste Management and Remediation Division
P.O. Box 200901
Helena, MT 59620

April 28, 2021

Dear Mr. Neudeck:

We write in regard to the Department of Environmental Quality's (DEQ) proposed plan for the cleanup of the Burlington Northern Missoula Facility located in the Northside neighborhood of Missoula-- a property within or bordering the districts we represent. As you know, industrial pollution at the site has contaminated the soil and surrounding groundwater with lead and polycyclic aromatic hydrocarbons. The Department's current proposal, to allow the Facility's soil to remain contaminated to a level whereby residential use would be impossible, is unacceptable. We request the Department select a remedy decision and cleanup plan that recognizes residential use as an anticipated land use and to require remediation of the soil and groundwater to allow for that use.

In developing a remediation plan for the Facility, DEQ evaluates four statutory factors found in Mont. Code Ann. § 75-10-701(18) to determine the reasonably anticipated future anticipated land of the facility: 1) local land and resource use regulations, ordinances, restrictions, or covenants; 2) historical and anticipated uses of the facility; 3) patterns of development in the immediate area; and 4) relevant indications of anticipated land use from the owner of the facility and local planning officials.

Any plan that disallows for residential use at the Facility would violate the aforementioned criteria. The Facility in question is zoned M1R-2, which includes residential use. Missoula's Growth Policy designates the property as "Community Mixed Use" which indicates "high density residential development is also encouraged in this area." Furthermore, the Facility is bordered by residential development (including recent multifamily construction) to the South and West, and is walkable to two of the largest employers in Western Montana.

As DEQ selects among proposed remedial actions, we encourage the agency to comply with its obligation under Mont. Code Ann. § 75-10-721(3) to "consider the acceptability of the actions to the affected community." We join our constituents and our local elected officials in calling for DEQ to recognize residential use as an anticipated future land use at the Facility in its cleanup plan and apply exposure standards appropriate for such use.



Big Sky Country
MONTANA STATE LEGISLATURE

Thank you in advance for your prompt attention and response to this matter.

Sincerely,

Sen. Dan Salomon
Senate District 47

Rep. Tom France
House District 94

Sen. Shannon O'Brien
Senate District 50

Rep. Connie Keogh
House District 91

Sen. Shane Morigeau
Senate District 48

Rep. Danny Tenenbaum
House District 95

CC:

Chris Dorrington, Director, Department of Environmental Quality (email)

Attn: Mr. Zachary Neudeck; Montana DEQ Waste Management and Remediation Division P.O. Box 200901 Helena, MT 59620-0901 / zachary.neudeck@mt.gov

Public Comment Response -- North-Missoula Community Development Corporation

The following is written as public comment by the North-Missoula Community Development Corporation (NMCDC) in response to the Montana Department of Environmental Quality's **Proposed Final Cleanup Plan for the BNSF State Superfund Facility**.

The NMCDC is a grass roots 501(c)3 nonprofit neighborhood advocacy and development organization founded in 1996. The Corporation's **vision** is healthy neighborhoods and communities of opportunity in which people of all ages and abilities can live, work and play. The organization's **mission** is to build from community strengths to form partnerships for economic revitalization and holistic land stewardship.

The organization has been involved in bringing more than \$13 million in programs or projects to its neighborhood service area – an area that centrally includes the State of Montana CECRA BNSF railyard site. The NMCDC is, itself, a property owner in the Northside neighborhood at Holmes and Phillips St. and in the Facility-adjacent Heart of Missoula neighborhood at 501-505 East Front St. The NMCDC also owns property in the adjacent Westside neighborhood at 1400 and 1500 Burns St. and at 1401 Cedar St. It is of note that two of the four NMCDC affordable housing projects were built in areas zoned the same as the BNSF site – a zoning that purposefully includes residential housing as a permitted use.

As a primary interested party, the NMCDC was intensively involved in the history of the White Pine Sash CECRA site's evolution and provided comment for that remediation process that is similar to what is provided here. As previously, the NMCDC now urges MDEQ to reverse a commercial/industrial level decision for cleanup to one that incorporates a large section of the facility cleaned to a residential level. That determination for the White Pine Facility is now vindicated by current plans to develop the eastern portion of that site to include desperately needed housing. The current BNSF site, much more closely adjacent to the city center, is no less deserving of a similar recognition for the viability and desirability of any potential residential development. An eastern, majority portion, of the yard is now vacant, graveled, and weed-infested. Most of this eastern section has not been purposefully used for nearly half a century.

In its proposed final cleanup plan, MDEQ asserts that it has evaluated the reasonably anticipated future uses of the BNSF Facility by assessing four factors found in Section 75-10-701(18), MCA. Cognizant of the danger of MDEQ's ability to craft a self-fulfilling prophecy regarding the Facility's future use as a function of the cleanup levels MDEQ, itself, requires, the NMCDC finds it especially important to point out that MDEQ's current analysis substantially fails meeting a clear weight of evidence regarding the four-criteria statutory test. Please consider the following submissions on these four factors:

1) Local land and resource use regulations, ordinances, restriction, or covenants;

The current zoning of the BNSF Facility it is one that, *by design*, permits both commercial and residential uses. This zoning grew from a context that recognizes the history of the railroad corridor, and its former industrial adjuncts, and considers mixed uses, including residential, as a perennial presence and potential high priority future use. The city-adopted Northside-Westside Neighborhood Plan acknowledges the intent of M1-R zoning to accommodate “Industrial Transition Districts” wherever pertinent. Such brownfield areas are common in Missoula and familiar to MDEQ: including White Pine Sash, the historic Southside Mill District, and the Hart Refinery site, among others – all adaptively undergone, or undergoing, transition away from former heavy industrial uses.

This zoning area in question is the only one of three “I” (industrial) zones in Missoula that allows residential development by right. Both the City and County of Missoula have submitted testimony to MDEQ that the exclusion of the possibility of residential development from currently proposed cleanup requirements will allow the Primary Responsible Party the ability to pass that expense on to future generations. NMCCDC feels the obligation to point out that the current MDEQ cleanup plan falls short in the following areas:

- **Not** compatible with the Growth Policy (inclusive of the Downtown Master Plan and Northside-Westside Neighborhood Plan);
- **Not** promoting health or general welfare in failure to require a superior cleanup; and
- **Not** giving reasonable consideration to the character of the National Register of Historic Places listed Northside Missoula Railroad Historic District; and,

2) Historical [pre- and post-contamination] and anticipated uses of the Facility;

With the first initiation of ABCD zoning in the 1930’s in Missoula, many portions of city blocks adjacent to the railroad operations, its spur line, lumber mills and other industrial sites, as well as the railroad tracks and railyard, itself, were designated “D-Industrial.” Many of these areas were re-evaluated in the 1990’s and are now re-designated “M-1R.”

Permanently constructed residential uses common fifty years before zoning codes ever existed in Missoula became officially acknowledged as viable in these types of zoning areas in the 1990s. This redesignation rectified a situation, particularly in the Northside and Westside neighborhoods, where it became evident that homes built in close proximity to the railroad tracks and railyard had existed long before there were any Missoula zoning codes, whatsoever, and some residents were having trouble financing or refinancing homes grandfathered into an inaccurately described D-Industrial zone.

Much before that, Missoula was incorporated as the county seat in 1866 and the original townsites was platted for streets and blocks prior to the arrival of the railroad. After the Northern Pacific Railroad’s government and locally subsidized arrival in 1883, the streets and blocks north of the tracks, including large portions of the current railyard superfund site were redesignated with different street names than south of the tracks, including “A” through “E” streets in large portions of what the railroad later acquired for round house, fueling and machine shop operations – the vast majority of which has now been removed with the land siting vacant.

Some area early residential development can be seen in the “Perspective Map” of Missoula Montana from 1891: <https://drive.google.com/file/d/1mm6m8EFGggtLO8OJzvb50ROkt7nOtgIA/view?usp=sharing> Housing development north of the tracks continued in extremely close to track and yard operations well into the 20th century; see photo, circa 1914 at:

<https://umt.box.com/s/wobc6wmr4vzivg2fhtwatw1e2ztqip2o> -- a time before the automotive era flourished, before the interstate highway system when the rail yard experienced extremely heavy use servicing coal-fired steam locomotives.

Lest MDEQ’s understanding of the superfund site’s use be ethnocentrically limited, it should be noted that in the historic era immediately before, and paralleling, the European colonizing insurge, the Missoula valley was the home territory of the Salish speaking peoples who regularly and seasonally camped, fished, and gathered bitterroots on, or extremely near, the facility close to the multi-channeled confluences of Rattlesnake Creek and the Hell Gate (Clark Fork) River, near the base of Mt Jumbo and Waterworks (“Indian”) Hill; see: Historical and Cultural Landscape of the Missoula Valley; pp. 128-130, figure 5.18 (<https://scholarworks.umt.edu/cgi/viewcontent.cgi?article=5586&context=etd>).

Likewise, Missoula valley as travel and habitation corridor long preceded the railroad’s arrival and even continued after its development as a traditional route to camping areas on Rattlesnake Creek next to the new Northern Pacific Railroad’s tracks. Below is a north facing photo taken from the passenger platform of Missoula’s first railroad depot (circa 1890).



3) Patterns of development in the immediate area;

Today, a striking example of the community’s essential need for land for housing can be seen directly adjacent to the locomotive fueling and old truck-loading-dock area on N. 2nd St. between the remaining vestiges of A and B Streets, where upscale townhomes and architect’s offices are currently under construction, just feet away from the BNSF property line. In short, now vacant

acreage of this Superfund Facility would have intense attractiveness for adaptive residential reuse for the following reasons:

- 1) It is centrally located, two blocks north of City Hall, and convenient to the both the downtown and residential Northside neighborhood;
- 2) It is flanked closely to the north by both historic, recent, and ongoing, residential development and is part of a national historic district;
- 3) It is vacant, underutilized, land in a valuable urban core;
- 4) It was previously used for nonindigenous residential development back to its original replatting after the railroad's arrival in 1883. (Also see Section 2, immediately above, for pre-European usage acknowledgement).

Community planning for the area builds from what is already being developed in the immediate surrounds of the Superfund Facility (See section 4, immediately below).

4) Relevant indications of anticipated land use from the owner of the Facility and local planning officials:



Missoula's 2019-adopted Downtown Master Plan (DMP) is an integral part of the City of Missoula's Growth Policy. That plan was created in partnership with the Downtown Business Improvement District, the Missoula Downtown Association, the Missoula Downtown Foundation and under the specific authorities of the Missoula Redevelopment Agency, the Missoula Parking Commission, and the City of Missoula's Executive Administrative and Legislative City Council bodies. (See: http://www.doverkohl.info/reports/mdmp/MDMP_2019-11-4_FINAL_SR_SM.pdf)

Over sixty business organizations and individuals contributed financially to the DMP and it is the most relevant, desired and anticipated, land use directive the municipality has to offer. The Plan envisions 9 major neighborhood groupings within its boundaries. One of these is the **Railyard District** (pp. 2.44 -2.45). The envisioned district takes in the railyard itself and incorporates

residential and commercial areas both north and south of the tracks and yard. The DMP envisions a reinstitution of the original A through E Streets portions of the 1890's Northside neighborhood in a reclaimed area that now sits vacant and idle. It is one of the most visibly blighted areas of Missoula, easily viewed from the Interstate Highway immediately to the north.

Traditionally, MDEQ has modeled its CECRA superfund policies on EPA Superfund procedure and best practice. Looking to an EPA Directive from March 17, 2010 (OWSER Directive 9355.7-19) titled "Reasonably Anticipated Future Land Use and Reducing Barriers to Reuse at EPA-lead Superfund Remedial Sites," the following policies are suggested:

"...the Agency considers reasonably anticipated future land use in the Superfund cleanup process in a number of ways, such as **working with local governments, local residents**, reuse entities and others as it identifies reasonably anticipated future land use for sites **or portions of sites** being cleaned up." (pp. 2-3; emphasis added)

"Another opportunity to consider the reasonably anticipated future land use is during the Superfund site baseline risk assessment. This risk assessment is developed during the remedial investigation (RI) process, and evaluates exposures under both current and future land use conditions, including information gathered from a number of sources. **These sources include the community itself, population surveys, typographic and housing data, Census projections**, and other sources listed in the 1995 Land Use Directive. While multiple future land uses may be feasible at a site including non-residential exposures, EPA's Risk Assessment Guidance for Superfund I, Human Health Evaluation Manual (part A) (1989) 9 recommends risk assessors **'assume future residential land use if it seems possible based on the evaluation of available information. For example, if the site is currently industrial but is located near residential areas in an urban area, future residential land use may be a reasonable possibility...'**" (p. 5; emphasis added)

In MDEQ's now-proposed cleanup plan, demographic or housing data were not demonstrated to have been collected or given weight in the stated justifications of the Department's future use analysis. Had it been collected the NMCDC believes that data would dramatically point to the future need of housing in the city's core, including the now unused areas of the BNSF Facility. The NMCDC therefore requests that MDEQ revisit its proposed final cleanup plan, that it listens to the Missoula local governing bodies' (both City and County) testimony and heeds the broad-based community submissions sent during this public comment period. It is only through such an action that the site's highest and best uses could be future realized and the only true way that the community's constitutional right to a clean and healthful environment can be assured.

MDEQ's current remediation plan recommends use of institutional controls related to soil contamination and states those "...will provide protection to human health and the environment by preventing exposure to contamination and limiting property usage..." The agency goes on to state, "Examples of engineering controls that may be used at the BN Missoula Facility include fencing, signage, and other security measures."

It misleadingly states, "One such measure, property perimeter fencing, is currently present onsite at the Facility." This viewpoint strikes the NMCDC as frighteningly myopic and one sided. It is a view of the yard's fencing strictly from Railroad St., on the downtown side of the Facility immediately adjacent to, and preventing access to, the mainline tracks. From the Northside Neighborhood's perspective, fencing at the Facility has not been installed, nor would it be seen as a desirable addition.

North Second Street continues as a major travel corridor for all modes of transportation, motorized and nonmotorized, and connects people with the residential and commercial

Northside, Greenough Park, the Rattlesnake Neighborhood, downtown, the University of Montana and the Orange Street interchange of I-90. Travelers on that route pass many acres of now unused, weed filled, open space long ago abandoned for any meaningful productive use. Fencing that area off and installing signage to discourage trespass will only point out a major social failure of process and bureaucratic will. In that circumstance, signage could accurately read, “Stay out. Contaminated Soil.”





Montana Rail Link, Inc.

101 International Drive
Post Office Box 16390
Missoula, Montana
USA 59808

(406) 523-1500
(406) 523-1493 fax
www.montanarail.com

May 2, 2021

Sent via electronic mail

Zachary Neudeck, Project Officer
DEQ Waste Management and Remediation Division
P.O. Box 200901
Helena, MT 59620
zachary.neudeck@mt.gov

Re: Public Comments: Proposed Plan for Missoula Railyard

Dear Mr. Neudeck,

Montana Rail Link, Inc. (MRL) appreciates the opportunity to comment on the Proposed Plan for the Missoula Fueling Facility/Railyard. MRL is aware BNSF Railway Company ("BNSF") has also submitted comments supporting the Proposed Plan and will not repeat those here.

In 1987, MRL began operations across southern Montana as a long-term lessee of BNSF. MRL's mission is to safely provide efficient transportation solutions to its customers and partners. Despite recent public comments suggesting otherwise, MRL will continue to deliver on that mission for Montanans. It is therefore untenable to suggest that the Missoula railyard will be used for anything other than railroad operations for the foreseeable future.

Moving freight by rail is among the most environmentally efficient, sustainable, and safest ways to move goods across the region. Since the late 1800s, railroads have served a vital role in Montana and will continue to do so for many years to come. In fact, predecessors to MRL were instrumental in the formation of the City of Missoula. The Missoula Railyard serves as a hub for MRL's operations including acting as a crew change point and a center for rail-car maintenance, switching operations, and safety inspections.

MRL is aware of the housing challenges Missoula and many communities in Montana face, but the broader Missoula Railyard complex will continue to serve as a center for railroad operations and interstate commerce. As a result, it is reasonable to anticipate that the future use of the Missoula railyard will be for commercial and/or industrial purposes. MRL is proud of the partnerships it has formed with the residents of Missoula and will continue to work with the community to address quality of life concerns now and into the future.

MRL's network serves as a growing freight corridor and, as part of the Strategic Rail Corridor Network, has been identified as paramount to national security interests as well. Though MRL appreciates that the Missoula Downtown Master Plan is aspirational in nature, MRL has no plans to discontinue railroad service on any portion of its network, including the Missoula Railyard.

During the COVID-19 pandemic, MRL employees continued to perform their essential duties to deliver the goods Montanans count on every day. The important functions MRL and other freight railroads perform was further highlighted in the recent American Jobs Plan released by the Biden Administration. Freight railroads will continue to serve the national interest and MRL will continue to do its part in ensuring the national supply chain remains fluid.

In closing, MRL urges DEQ to finalize the Proposed Plan in recognition of the past, current and planned future use of the property, which is undoubtedly commercial/industrial. MRL will continue to engage with the Missoula community, and work to find ways to further the public interest while respecting the important contributions of the freight rail industry.

Sincerely,



Ross R. Lane

VP, Corporate Relations

Montana Rail Link



MISSOULA DOWNTOWN ASSOCIATION
BUSINESS IMPROVEMENT DISTRICT
MISSOULA DOWNTOWN FOUNDATION

March 29, 2021

Zachary Neudeck
Montana DEQ: Remediation Division
P.O. Box 200901
Helena, MT 59620-0901

Mr. Neudeck,

On behalf of the Missoula Downtown Association and its 550 business members, we appreciate the opportunity to learn about and provide input on the Proposed Plan for the Burlington Northern (BN) Missoula State Superfund Facility.

We have two specific requests:

- We support extending the public comment period to provide more time for the public's feedback.
- We request the Facility be remediated to residential standards, not commercial/industrial standards only.

The Department of Environmental Quality has stated that based upon its evaluation it "... has identified the reasonably anticipated future uses of the BN Missoula Facility as commercial/industrial...". We suggest the anticipated future considerations need further vetting with respect to possible residential development. To base use solely on BN and/or Montana Rail Link (MRL) statements of "anticipated future" denies the potential consideration for other future opportunities.

While we understand the tracks will be here for many years to come, the future of that site is planned for residential use, as noted in both the 2009 and the 2019 Downtown Master Plan. If and when the site will be redeveloped, the DEQ's requirements for clean-up should not limit the potential and the need for residential development on some or all portions of the property. The Facility is immediately adjacent to a vibrant city center, and the future of the site has the potential to contribute to the health of our city's core. The community needs and vision are for that site to eventually be converted to housing, not industrial, and therefore the cleanup of the superfund site should be to residential standards.

We agree with our community leadership: there is no reason future owners or operators of the Facility should bear the financial burden of remediating the property contaminated by the railroad.

Thank you for your consideration.

A handwritten signature in black ink that reads "Linda K. McCarthy".

Linda K. McCarthy
Executive Director

AUDIO TRANSCRIPTION
OF
MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
PROPOSED PLAN FOR BN MISSOULA STATE SUPERFUND SITE
PUBLIC COMMENTS

Hearing conducted on March 24, 2021

Transcribed by Melissa K. Gum, RDR, CRR, CRC,
Jeffries Court Reporting, Inc., 1015 Mount Avenue,
Suite B, Missoula, Montana 59801, (406) 721-1143,
Freelance Court Reporter and Notary Public for the
State of Montana, Residing in Corvallis, Montana,
jccourt@montana.com

AUDIO DISCLAIMER

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

The recording quality of the audio provided, in whatever form or medium, will affect, influence and control the quality of the transcript produced.

Since no court reporter was present at the proceeding, we cannot assure or certify the accuracy of this taped transcription. It should be known and understood that portions of the tape that are not clearly discernible will be transcribed using the context and content of material that is audible.

The assurance we can provide is that we will endeavor to provide the most thorough and complete transcript that is possible.

1 (Whereupon, the following transcript was
2 transcribed from an audio link. The reporter was
3 not present to verify any spellings or speaker
4 identifications.)

5 KEVIN STONE: So this hearing is now
6 called to order. For the record, this is the time
7 and place set to receive comments on the proposed
8 plan for the BN Missoula facility.

9 I'm Kevin Stone, a public information
10 officer for the Montana Department of
11 Environmental Quality, and I'm the hearing officer
12 for tonight's hearing. I have a statement that I
13 need to read into the record so that we will have
14 an official record of what we're doing here
15 tonight, and then we will have people able to
16 provide their public comment.

17 Notice of this hearing was published on
18 DEQ's website on February 25. On February 25, DEQ
19 also issued a notice -- a public notice in the --
20 to "The Missoulian." DEQ has provided separate
21 notice of the public comment period in this
22 hearing to other interested parties, including
23 BNSF, MRL, the Missoula City Commission, and the
24 Missoula County Commission. In addition, notice
25 of the public comment period and hearing was

1 published in "The Missoulian."

2 Interested parties may present their
3 comments either orally or in writing at today's
4 hearing. No oral comments other than those today
5 will be allowed. As I noted at the beginning of
6 the meeting, this hearing is being recorded and
7 will be sent to a court reporter to prepare a
8 transcript, then we will have a written record,
9 and we will respond to your comments in the
10 responsiveness summary that will be attached to
11 the record of decision.

12 You can submit written comments to
13 Zachary Neudeck no later than 11:59 p.m. Mountain
14 Daylight Time on April 2nd, 2021. We've provided
15 his contact information in the presentation today,
16 and that information is also available on the
17 chat.

18 Because we are recording and will
19 transcribe this hearing, all witnesses who wish to
20 present oral comments need to speak clearly so
21 that our court reporter can transcribe what you're
22 saying from the recording. Before you make your
23 statement, please identify yourself by name and
24 address and if you have any affiliation that you
25 wish us to be aware of. And if you wish, you can

1 also submit a written copy of your comments in
2 place of or in addition to oral comments.

3 We don't have any formal rules of
4 evidence or procedure that we follow for these,
5 but we do ask that your comments be relevant to
6 the proposed plan, which is the document that is
7 available for public comment now and for which we
8 are having this hearing.

9 So with those comments on the record,
10 I'll go ahead and ask if there is anyone who would
11 like to provide oral comments today and to do so
12 by entering your name into the chat. Anyone on
13 the phone that would like to provide oral comment,
14 we'll get to you following folks who have the
15 ability to put their name into the chat.

16 So it looks like our first person
17 interested is Mikyla, and you can go ahead and
18 unmute. Please indicate your first and last name,
19 location, and any affiliation that you'd like us
20 to be aware of, and then go ahead with your oral
21 comment. You'll have up to three minutes.

22 MIKYLA VEIS: I probably won't take that
23 long. I'm Mikyla Veis, and it's -- I'm at 426
24 North 1st Street West on the north side. That's
25 where I live. And I would just like to request

1 that we extend the public comment period for at
2 least one month for this so that we can get the
3 word out to our neighbors and they can offer their
4 opinion, because I feel like -- I mean, this is
5 a -- this is a really big deal, and I didn't hear
6 about it, and Bob just found out about it and so
7 did Sam, and we're all really -- we really have
8 our nose to the grindstone.

9 I even get "The Missoulian" delivered to
10 my house every morning, and I didn't see the -- I
11 didn't see the notice. So I feel like hardly
12 anybody knows about this, and I would love to be
13 able to spread the word to my neighbors and let
14 them get their opinions heard.

15 So that's my main comment, and thank you
16 for holding this and inviting us.

17 KEVIN STONE: All right. Thank you. If
18 you could go back on mute.

19 All right. Next will be Grace Decker.

20 GRACE DECKER: Hey.

21 KEVIN STONE: And then after that will
22 be Sam Duncan.

23 GRACE DECKER: Thanks. Can you hear me
24 okay?

25 KEVIN STONE: Yes, we can.

1 GRACE DECKER: Okay. Fantastic. Sorry,
2 since I had the trouble before. I -- I'm Grace
3 Decker. I live at 1021 Holmes Street, about a
4 half a block off the railroad tracks. I've lived
5 here on the north side since 2002, and I echo the
6 request to have a little more time for public
7 comment and for outreach about this issue. One of
8 the things that is historically true about the
9 north side is that as a neighborhood, we are not
10 always as powerfully represented at
11 decision-making tables in the community, and
12 there's a tremendous amount of organizing work
13 going on on the north side right now to change
14 that and has been for some time. And that some of
15 the key organizers weren't even aware of this
16 process until today just speaks to the fact that
17 we definitely need a little more time and a little
18 more outreach around this topic and this issue so
19 that people feel informed and feel like their
20 voices have been heard.

21 On the subject of cleanup itself, I was
22 pretty aware of the White Pine Sash process when
23 the superfund decision was being made for that
24 site. And I think that the irony of having not
25 cleaned up portions of that site to a residential

1 level, only then to see residential development
2 move forward in that very area, that should speak
3 to the capriciousness and changeability of what we
4 think of as the anticipated future uses of a site,
5 especially on the north side, close to our urban
6 core of Missoula, where housing pressure and
7 infill is intense, to say the least.

8 Every scrap of available developable
9 land is a valuable asset to this community and
10 will be considered for development. Right along
11 the frontage road right now there are multiplexes
12 and multifamily housing units and single-family
13 housing units being built as close or closer to
14 the -- I don't know if they call it a roundhouse,
15 but whatever the thing is that spins the
16 locomotives around now -- right there, new
17 development is being built, and significant
18 portions of the area that are under consideration
19 are not in use for any particular purpose at this
20 time. Especially since the City has expressed an
21 interest in development in that area, it would be
22 foolhardy for us not to pursue the opportunity to
23 have the responsible party for the pollution,
24 neither one, to pay for it.

25 If development goes forward in this

1 area, we as citizens should not be expected to
2 foot the bill for people who have made money over
3 generations with some unintended and negative
4 consequences to the land. If this is our chance,
5 we need to be realistic and look at the history of
6 what's happened right here on the north side with
7 development in an area where that was not an
8 intended or anticipated use. We just need to be
9 smarter, and we need to do this right. Thank you.

10 KEVIN STONE: Your three minutes have
11 elapsed. Thank you very much.

12 So next up will be Sam Duncan. Go ahead
13 and unmute.

14 SAM DUNCAN: Thanks. Sam Duncan,
15 pronouns they/them. And I live right next door to
16 Grace, so I also live a half block from the rail
17 yard at 1021 Holmes. And as a neighbor, I would
18 really like to request that this -- actually, and
19 as a community organizer and as an employee of the
20 community development corporation for this
21 neighborhood would like to, like, really, really
22 stress that there are people who care about this.
23 Neighbors in this community really, really care
24 about our neighborhood, and giving them the
25 opportunity to be involved with this conversation

1 regardless of the results of it is really
2 meaningful. And, like Grace said, especially in a
3 community where people are not invited to these
4 tables, and that's even harder during a pandemic.
5 So an extension of even a week would be
6 meaningful, but a month would make a really huge
7 difference. We also live in a very high-density,
8 low-income community, which means that people
9 aren't out walking around and like -- or getting
10 "The Missoulian," for example.

11 We need time to actually reach people.
12 And so if things are being shared, like, on the
13 interwebs and things, that's not going to reach
14 the lowest income members of our community who,
15 you know, it's -- who live next to the rail yard,
16 you know, who live next to the superfund site, and
17 it would be incredible to have that extra time to
18 reach them. So I think I'm going to keep it to
19 that for now. Thank you.

20 RO ERIN: Okay. Can I go next? Kevin,
21 you're muted.

22 KEVIN STONE: Thank you. Yeah, just go
23 ahead and let us know your first -- first and last
24 name, address, and any affiliation, and then go
25 ahead. I'll start your three minutes.

1 RO ERIN: Sure. My name is Ro Erin,
2 pronouns she/her. I live on -- at 505 Cooley
3 Street on the north side. And I'd just like to
4 echo what's already been said, that, you know,
5 like we've just heard about this meeting about 15
6 minutes before it started. I feel grateful that I
7 was able to show up, but a lot of folks aren't
8 connected and can't just tune in to a meeting very
9 last minute. So I think the least that we could
10 do is extend public comment and then intentionally
11 engage the neighborhood in a meaningful way. Like
12 folks have already said, there is a lot of
13 organizing work going on in this neighborhood, and
14 so it would be, I think, in everyone's best
15 interests to engage with organizers and neighbors.
16 Thank you.

17 KEVIN STONE: Thank you. All right. Is
18 there anyone else who would like to provide oral
19 comment?

20 All right. It looks like Travis will be
21 up next, so go ahead and unmute, Travis.

22 TRAVIS ROSS: Hi. Travis Ross, Missoula
23 City-County Health Department, environmental
24 health division. I too would like to request the
25 extension for public comment as a -- as just a

1 matter of health equities and to ensure that folks
2 in the neighborhood do have time to participate in
3 the comment period.

4 Additionally, I would like to see a
5 consideration for alteration of the operable unit,
6 if you will, for surface soil cleanup to -- to go
7 to residential standards. It is in the
8 proposed -- the master plan, the downtown master
9 plan, and has been since 2009. And we've seen a
10 pattern of what looks like disinvestment in terms
11 of infrastructure additions to that site since the
12 '50s. So it is, I feel, a reasonable anticipated
13 future use and would -- we'll follow up with
14 written comment, but that's all. Thank you for
15 your work and for the hearing.

16 KEVIN STONE: Thank you, Travis.

17 Looks like next up will be Andi Helzell,
18 and then following that will be Jovina McCarthy.

19 So go ahead and unmute, Andi, introduce
20 yourself, and then you'll have three minutes for
21 your comment.

22 ANDI HELZELL: Thank you. This is Andi
23 Helzell, pronouns they/them. I live on the west
24 side. I'd like to -- again, I think it's
25 important that we have more time to engage

1 neighbors in a meaningful way in this so that all
2 the voices that are going to be impacted can be
3 heard. So I would request that an extension of
4 the public comment period be made at least for 30
5 more days.

6 Also, I just am noticing in the great
7 questions that were asked and the clarifications
8 that we got that it seems to me there are -- it
9 seems to me to benefit the private industry to --
10 for the private industry to say they're going to
11 continue to use this as a railroad and for the
12 Montana DEQ to accept that and talk about kind of
13 the structures that are in place to -- that would
14 limit cleanup when really the opportunity exists
15 here to recognize that zoning changes, to
16 recognize that, you know, use changes over time,
17 and much like at White Pine Sash, much like in
18 other developments in our neighborhoods, you know,
19 they have actually turned into developments that
20 the City buys or other developers buy up and then
21 make residential.

22 So it does not make any sense to me that
23 because the private industry and the railroad has
24 said they plan to continue using it as a railroad
25 we would just leave it at that rather than making

1 those responsible for the superfund site, you
2 know, holding them accountable, requiring that
3 they pay for it to be cleaned up to residential
4 standards in the event that we are able to
5 purchase that land and use it for housing, which
6 is desperately needed in this community.

7 I would just urge the Montana DEQ to
8 consider that and consider requiring that the
9 railroad clean it up to the highest standards
10 possible. Thank you.

11 KEVIN STONE: All right. Thank you,
12 Andi.

13 Next up will be Jovina. I'm hoping I'm
14 getting that right.

15 JOVINA McCARTHY: Jovina.

16 KEVIN STONE: Oh, well, thank -- thank
17 you. Sorry about that.

18 JOVINA McCARTHY: That's okay.

19 I'm Jovina McCarthy. I live on the west
20 side, and I just heard about this meeting tonight,
21 and I missed the whole first part of it, so I'm
22 really -- I'm strong on advocating for an
23 extension of time to comment. Thirty days would
24 be amazing. Thank you.

25 KEVIN STONE: All right. Thank you.

1 Anyone else who's logged in on a
2 computer that would be interested in providing
3 comment?

4 NMCDC, were you raising your hand there
5 to provide comment or --

6 BOB OAKES: Yes. You know, I'm going
7 to -- well, my name is Bob Oakes, and I'm a north
8 side neighbor, and I work for the -- for our
9 neighborhood community development corporation as
10 well. And down the line here, depending on time,
11 I want to make written comment, but -- to add to
12 this, but for now I'd really like to join everyone
13 else in asking for an extension for the ability to
14 make comment. Thank you.

15 KEVIN STONE: All right. Thanks to you,
16 Bob.

17 If there's anyone else on the computer
18 that would like to provide oral public comment at
19 this time, go ahead and type your name into the
20 chat. If there's anyone on the phone who would
21 like to provide oral comment at this time, go
22 ahead and press star 9 to raise your hand, and
23 then we'll call on you to introduce yourself and
24 provide comment.

25 So there's an -- all right. Blake, go

1 ahead, unmute, introduce yourself, and you'll have
2 three minutes to provide your comment.

3 BLAKE NICOLAZZO: Thank you. This is
4 Blake Nicolazzo. I live on the north side. And I
5 don't want to beat the dead horse, but I want to
6 echo what everyone else has said about extending
7 the comment period. And I would also like to just
8 put it out there that the time for accountability
9 on cleanup has passed, and so the next best time
10 to hold people accountable for their mess is now.
11 So I would like to see the property be brought
12 back to residential standards without question.
13 Thank you.

14 KEVIN STONE: Thank you. Is there
15 anyone else who would like to sign up to provide
16 oral public comment this evening?

17 All right. Well, seeing none, we'll go
18 ahead and conclude the hearing. I want to remind
19 you that you have until 11:59 p.m. Mountain
20 Daylight Time on April 2nd, 2021, to provide
21 written comments to Zachary Neudeck, and we've
22 provided that information. And, again, his
23 contact information is on the slides from this
24 presentation.

25 We very much appreciate you spending

1 your evening here tonight. We appreciate your
2 civic engagement and, you know, your passion for
3 the community. So we welcome your input and hope
4 that you have a good night. With that, we'll
5 conclude our hearing, though. So that will bring
6 the hearing portion to a close.

7 (Recording concluded.)

8
9 * * *

C E R T I F I C A T E

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

STATE OF MONTANA)
 : SS.
County of Missoula)

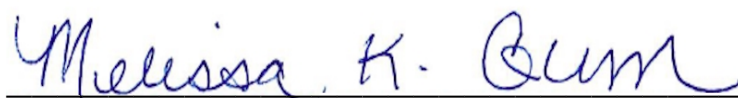
I, Melissa K. Gum, RDR, CRR, CRC, Freelance
Court Reporter and Notary Public for the State of
Montana, residing in Corvallis, Montana, do hereby
certify:

That I was authorized to and did transcribe
the testimony and evidence in this cause to the best
of my ability from the audio file I received.

That the foregoing pages of this transcript
represent my best effort to transcribe an audio file
of a proceeding where I was not in attendance.

I further certify that I am not an attorney
nor counsel of any of the parties; nor a relative or
employee of any attorney or counsel connected with
the action, nor financially interested in the action.

IN WITNESS WHEREOF, I have hereunto set my
hand and seal on this the 5th day of April, 2021.


Melissa K. Gum, RDR, CRR, CRC
Freelance Court Reporter
Notary Public, State of Montana
Residing in Corvallis, Montana.
My Commission expires: 7/26/2023

AUDIO TRANSCRIPT

3/24/2021

MT DEQ PUBLIC HEARING

A	audible 2:14 audio 1:3, 2:1, 2:3 3:2, 18:8, 18:10 authorized 18:7 available 4:16, 5:7 8:8 Avenue 1:23 aware 4:25, 5:20 7:15, 7:22	City 3:23, 8:20 13:20 City-County 11:23 civic 17:2 clarifications 13:7 clean 14:9 cleaned 7:25, 14:3 cleanup 7:21, 12:6 13:14, 16:9 clearly 2:12, 4:20 close 8:5, 8:13 17:6 closer 8:13 comment 3:16, 3:21 3:25, 5:7, 5:13 5:21, 6:1, 6:15, 7:7 11:10, 11:19, 11:25 12:3, 12:14, 12:21 13:4, 14:23, 15:3 15:5, 15:11, 15:14 15:18, 15:21, 15:24 16:2, 16:7, 16:16 comments 1:7, 3:7 4:3, 4:4, 4:9, 4:12 4:20, 5:1, 5:2, 5:5 5:9, 5:11, 16:21 Commission 3:23 3:24, 18:20 community 7:11 8:9, 9:19, 9:20 9:23, 10:3, 10:8 10:14, 14:6, 15:9 17:3 complete 2:18 computer 15:2 15:17 conclude 16:18 17:5 concluded 17:7 conducted 1:10 connected 11:8 18:13 consequences 9:4 consider 14:8, 14:8 consideration 8:18 12:5 considered 8:10 contact 4:15, 16:23 content 2:13 context 2:13	continue 13:11 13:24 control 2:5 conversation 9:25 Cooley 11:2 copy 5:1 core 8:6 corporation 9:20 15:9 Corvallis 1:24, 18:6 18:19 counsel 18:13 18:13 County 3:24, 18:4 court 1:23, 1:24 2:8, 4:7, 4:21, 18:5 18:18 CRC 1:22, 18:5 18:18 CRR 1:22, 18:5 18:18	developments 13:18 13:19 difference 10:7 discernible 2:12 DISCLAIMER 2:1 disinvestment 12:10 division 11:24 document 5:6 doing 3:14 door 9:15 downtown 12:8 Duncan 6:22, 9:12 9:14, 9:14
	B	back 6:18, 16:12 beat 16:5 beginning 4:5 benefit 13:9 best 11:14, 16:9 18:8, 18:10 big 6:5 bill 9:2 Blake 15:25, 16:3 16:4 block 7:4, 9:16 BN 1:6, 3:8 BNSF 3:23 Bob 6:6, 15:6, 15:7 15:16 bring 17:5 brought 16:11 built 8:13, 8:17 buy 13:20 buys 13:20	day 18:16 Daylight 4:14 16:20 days 13:5, 14:23 dead 16:5 deal 6:5 decision 4:11, 7:23 decision-making 7:11 Decker 6:19, 6:20 6:23, 7:1, 7:3 definitely 7:17 delivered 6:9 Department 1:5 3:10, 11:23 depending 15:10 DEQ 3:18, 3:20 13:12, 14:7 DEQ's 3:18 desperately 14:6 developable 8:8 developers 13:20 development 8:1 8:10, 8:17, 8:21 8:25, 9:7, 9:20 15:9	E
	C	call 8:14, 15:23 called 3:6 capriciousness 8:3 care 9:22, 9:23 cause 18:8 certify 2:9, 18:6 18:12 chance 9:4 change 7:13 changeability 8:3 changes 13:15 13:16 chat 4:17, 5:12 5:15, 15:20 citizens 9:1		echo 7:5, 11:4, 16:6 effort 18:10 either 4:3 elapsed 9:11 employee 9:19 18:13 endeavor 2:17 engage 11:11 11:15, 12:25 engagement 17:2 ensure 12:1 entering 5:12 environmental 1:5 3:11, 11:23 equities 12:1 Erin 10:20, 11:1 11:1 especially 8:5, 8:20 10:2 evening 16:16, 17:1 event 14:4 everyone's 11:14 evidence 5:4, 18:8 example 10:10 exists 13:14 expected 9:1 expires 18:20 expressed 8:20 extend 6:1, 11:10 extending 16:6 extension 10:5 11:25, 13:3, 14:23 15:13
			D	

AUDIO TRANSCRIPT

3/24/2021

MT DEQ PUBLIC HEARING

extra 10:17	grateful 11:6	income 10:14	know 8:14, 10:15	Melissa 1:22, 18:5
F	great 13:6	incredible 10:17	10:16, 10:23, 11:4	18:18
facility 3:8	grindstone 6:8	indicate 5:18	13:16, 13:18, 14:2	members 10:14
fact 7:16	Gum 1:22, 18:5	industry 13:9	15:6, 17:2	mess 16:10
Fantastic 7:1	18:18	13:10, 13:23	known 2:11	Mikyla 5:17, 5:22
February 3:18, 3:18	H	infill 8:7	knows 6:12	5:23
feel 6:4, 6:11, 7:19	half 7:4, 9:16	influence 2:5	L	minute 11:9
7:19, 11:6, 12:12	hand 15:4, 15:22	information 3:9	land 8:9, 9:4, 14:5	minutes 5:21, 9:10
file 18:8, 18:10	18:16	4:15, 4:16, 16:22	leave 13:25	10:25, 11:6, 12:20
financially 18:14	happened 9:6	16:23	level 8:1	16:2
first 5:16, 5:18	harder 10:4	informed 7:19	limit 13:14	missed 14:21
10:23, 10:23, 14:21	health 11:23, 11:24	infrastructure 12:11	line 15:10	Missoula 1:6, 1:23
folks 5:14, 11:7	12:1	input 17:3	link 3:2	3:8, 3:23, 3:24, 8:6
11:12, 12:1	hear 6:5, 6:23	intended 9:8	little 7:6, 7:17, 7:17	11:22, 18:4
follow 5:4, 12:13	heard 6:14, 7:20	intense 8:7	live 5:25, 7:3, 9:15	Missoulia 3:20
following 3:1, 5:14	11:5, 13:3, 14:20	intentionally 11:10	9:16, 10:7, 10:15	4:1, 6:9, 10:10
12:18	hearing 1:10, 3:5	interest 8:21	10:16, 11:2, 12:23	money 9:2
foolhardy 8:22	3:11, 3:12, 3:17	interested 3:22, 4:2	14:19, 16:4	Montana 1:5, 1:23
foot 9:2	3:22, 3:25, 4:4, 4:6	5:17, 15:2, 18:14	lived 7:4	1:24, 1:24, 3:10
foregoing 18:10	4:19, 5:8, 12:15	interests 11:15	location 5:19	13:12, 14:7, 18:3
form 2:4	16:18, 17:5, 17:6	interwebs 10:13	locomotives 8:16	18:6, 18:6, 18:19
formal 5:3	Helzell 12:17	introduce 12:19	logged 15:1	18:19
forward 8:2, 8:25	12:22, 12:23	15:23, 16:1	long 5:23	month 6:2, 10:6
found 6:6	hereunto 18:15	invited 10:3	look 9:5	morning 6:10
Freelance 1:24	Hey 6:20	inviting 6:16	looks 5:16, 11:20	Mount 1:23
18:5, 18:18	Hi 11:22	involved 9:25	12:10, 12:17	Mountain 4:13
frontage 8:11	high-density 10:7	irony 7:24	lot 11:7, 11:12	16:19
further 18:12	highest 14:9	issue 7:7, 7:18	love 6:12	move 8:2
future 8:4, 12:13	historically 7:8	issued 3:19	low-income 10:8	MRL 3:23
G	history 9:5	J	lowest 10:14	multifamily 8:12
generations 9:3	hold 16:10	jrcourt@montana....	M	multiplexes 8:11
getting 10:9, 14:14	holding 6:16, 14:2	1:25	main 6:15	mute 6:18
giving 9:24	Holmes 7:3, 9:17	Jeffries 1:23	making 13:25	muted 10:21
go 5:10, 5:17, 5:20	hope 17:3	join 15:12	March 1:10	N
6:18, 9:12, 10:20	hoping 14:13	Jovina 12:18, 14:13	master 12:8, 12:8	name 4:23, 5:12
10:22, 10:24, 11:21	horse 16:5	14:15, 14:15, 14:18	material 2:14	5:15, 5:18, 10:24
12:6, 12:19, 15:19	house 6:10	14:19	matter 12:1	11:1, 15:7, 15:19
15:21, 15:25, 16:17	housing 8:6, 8:12	K	McCarthy 12:18	need 3:13, 4:20
goes 8:25	8:13, 14:5	keep 10:18	14:15, 14:18, 14:19	7:17, 9:5, 9:8, 9:9
going 7:13, 10:13	huge 10:6	Kevin 3:5, 3:9, 6:17	mean 6:4	10:11
10:18, 11:13, 13:2	I	6:21, 6:25, 9:10	meaningful 10:2	needed 14:6
13:10, 15:6	identifications 3:4	10:20, 10:22, 11:17	10:6, 11:11, 13:1	negative 9:3
good 17:4	identify 4:23	12:16, 14:11, 14:16	means 10:8	neighbor 9:17, 15:8
Grace 6:19, 6:20	impacted 13:2	14:25, 15:15, 16:14	medium 2:4	neighborhood 7:9
6:23, 7:1, 7:2, 9:16	important 12:25	key 7:15	meeting 4:6, 11:5	9:21, 9:24, 11:11
10:2	including 3:22	kind 13:12	11:8, 14:20	11:13, 12:2, 15:9
				neighborhoods
				13:18

AUDIO TRANSCRIPT

3/24/2021

MT DEQ PUBLIC HEARING

neighbors 6:3, 6:13 9:23, 11:15, 13:1 neither 8:24 Neudeck 4:13 16:21 new 8:16 Nicolazzo 16:3 16:4 night 17:4 NMCCDC 15:4 north 5:24, 5:24 7:5, 7:9, 7:13, 8:5 9:6, 11:3, 15:7 16:4 nose 6:8 Notary 1:24, 18:5 18:19 noted 4:5 notice 3:17, 3:19 3:19, 3:21, 3:24 6:11 noticing 13:6	P	process 7:16, 7:22 produced 2:6 pronouns 9:15, 11:2 12:23 property 16:11 proposed 1:6, 3:7 5:6, 12:8 provide 2:16, 2:17 3:16, 5:11, 5:13 11:18, 15:5, 15:18 15:21, 15:24, 16:2 16:15, 16:20 provided 2:4, 3:20 4:14, 16:22 providing 15:2 public 1:7, 1:24 3:9, 3:16, 3:19 3:21, 3:25, 5:7, 6:1 7:6, 11:10, 11:25 13:4, 15:18, 16:16 18:5, 18:19 published 3:17, 4:1 purchase 14:5 purpose 8:19 pursue 8:22 put 5:15, 16:8	10:6, 13:14, 14:22 15:12 reasonable 12:12 receive 3:7 received 18:8 recognize 13:15 13:16 record 3:6, 3:13 3:14, 4:8, 4:11, 5:9 recorded 4:6 recording 2:3, 4:18 4:22, 17:7 regardless 10:1 relative 18:13 relevant 5:5 remind 16:18 reporter 1:24, 2:8 3:2, 4:7, 4:21, 18:5 18:18 Reporting 1:23 represent 18:10 represented 7:10 request 5:25, 7:6 9:18, 11:24, 13:3 requiring 14:2, 14:8 residential 7:25, 8:1 12:7, 13:21, 14:3 16:12 residing 1:24, 18:6 18:19 respond 4:9 responsible 8:23 14:1 responsiveness 4:10 results 10:1 right 6:17, 6:19 7:13, 8:10, 8:11 8:16, 9:6, 9:9, 9:15 11:17, 11:20, 14:11 14:14, 14:25, 15:15 15:25, 16:17 Ro 10:20, 11:1 11:1 road 8:11 Ross 11:22, 11:22 roundhouse 8:14 rules 5:3	S	Sam 6:7, 6:22, 9:12 9:14, 9:14 Sash 7:22, 13:17 saying 4:22 scrap 8:8 seal 18:16 see 6:10, 6:11, 8:1 12:4, 16:11 seeing 16:17 seen 12:9 sense 13:22 sent 4:7 separate 3:20 set 3:7, 18:15 shared 10:12 she/her 11:2 show 11:7 side 5:24, 7:5, 7:9 7:13, 8:5, 9:6, 11:3 12:24, 14:20, 15:8 16:4 sign 16:15 significant 8:17 single-family 8:12 site 1:6, 7:24, 7:25 8:4, 10:16, 12:11 14:1 slides 16:23 smarter 9:9 soil 12:6 Sorry 7:1, 14:17 speak 4:20, 8:2 speaker 3:3 speaks 7:16 spellings 3:3 spending 16:25 spins 8:15 spread 6:13 ss 18:3 standards 12:7, 14:4 14:9, 16:12 star 15:22 start 10:25 started 11:6 State 1:6, 1:24 18:3, 18:5, 18:19 statement 3:12 4:23
O		Q			
Oakes 15:6, 15:7 offer 6:3 officer 3:10, 3:11 official 3:14 Oh 14:16 okay 6:24, 7:1 10:20, 14:18 operable 12:5 opinion 6:4 opinions 6:14 opportunity 8:22 9:25, 13:14 oral 4:4, 4:20, 5:2 5:11, 5:13, 5:20 11:18, 15:18, 15:21 16:16 orally 4:3 order 3:6 organizer 9:19 organizers 7:15 11:15 organizing 7:12 11:13 outreach 7:7, 7:18	P	quality 1:5, 2:3, 2:5 3:11 question 16:12 questions 13:7			
		R			
		rail 9:16, 10:15 railroad 7:4, 13:11 13:23, 13:24, 14:9 raise 15:22 raising 15:4 RDR 1:22, 18:5 18:18 reach 10:11, 10:13 10:18 read 3:13 realistic 9:5 really 6:5, 6:7, 6:7 9:18, 9:21, 9:21 9:23, 9:23, 10:1			

AUDIO TRANSCRIPT

3/24/2021

MT DEQ PUBLIC HEARING

Stone 3:5, 3:9, 6:17 6:21, 6:25, 9:10 10:22, 11:17, 12:16 14:11, 14:16, 14:25 15:15, 16:14 Street 5:24, 7:3 11:3 stress 9:22 strong 14:22 structures 13:13 subject 7:21 submit 4:12, 5:1 Suite 1:23 summary 4:10 superfund 1:6, 7:23 10:16, 14:1 Sure 11:1 surface 12:6	time 3:6, 4:14, 7:6 7:14, 7:17, 8:20 10:11, 10:17, 12:2 12:25, 13:16, 14:23 15:10, 15:19, 15:21 16:8, 16:9, 16:20 today 4:4, 4:15 5:11, 7:16 today's 4:3 tonight 3:15, 14:20 17:1 tonight's 3:12 topic 7:18 tracks 7:4 transcribe 4:19 4:21, 18:7, 18:10 transcribed 1:22 2:13, 3:2 transcript 2:6, 2:18 3:1, 4:8, 18:10 transcription 1:3 2:10 Travis 11:20, 11:21 11:22, 11:22, 12:16 tremendous 7:12 trouble 7:2 true 7:8 tune 11:8 turned 13:19 type 15:19	voices 7:20, 13:2	2009 12:9 2021 1:10, 4:14 16:20, 18:16 24 1:10 25 3:18, 3:18 2nd 4:14, 16:20	
T		W	3	
		walking 10:9 want 15:11, 16:5 16:5, 16:18 way 11:11, 13:1 we've 4:14, 11:5 12:9, 16:21 website 3:18 week 10:5 welcome 17:3 west 5:24, 12:23 14:19 WHEREOF 18:15 White 7:22, 13:17 wish 4:19, 4:25 4:25 WITNESS 18:15 witnesses 4:19 word 6:3, 6:13 work 7:12, 11:13 12:15, 15:8 writing 4:3 written 4:8, 4:12 5:1, 12:14, 15:11 16:21	30 13:4	
tables 7:11, 10:4 take 5:22 talk 13:12 tape 2:11 taped 2:10 terms 12:10 testimony 18:8 thank 6:15, 6:17 9:9, 9:11, 10:19 10:22, 11:16, 11:17 12:14, 12:16, 12:22 14:10, 14:11, 14:16 14:16, 14:24, 14:25 15:14, 16:3, 16:13 16:14 Thanks 6:23, 9:14 15:15 they/them 9:15 12:23 thing 8:15 things 7:8, 10:12 10:13 think 7:24, 8:4 10:18, 11:9, 11:14 12:24 Thirty 14:23 thorough 2:17 three 5:21, 9:10 10:25, 12:20, 16:2		Y	406 1:23 426 5:23	
		U	5	
understood 2:11 unintended 9:3 unit 12:5 units 8:12, 8:13 unmute 5:18, 9:13 11:21, 12:19, 16:1 urban 8:5 urge 14:7 use 8:19, 9:8, 12:13 13:11, 13:16, 14:5 uses 8:4		Z	505 11:2 50s 12:12 59801 1:23 5th 18:16	
		Zachary 4:13, 16:21 zoning 13:15	7	
V		1	7/26/2023 18:20 721-1143 1:23	
		1015 1:23 1021 7:3, 9:17 11:59 4:13, 16:19 15 11:5 1st 5:24	9	
valuable 8:9 Veis 5:22, 5:23 verify 3:3		2	9 15:22	
		2002 7:5		